MAIN ST

Opinion: Thornton May says there's a lot that Main Street IT could learn from Wall Street IT, but the two rarely cross paths. PAGE 34

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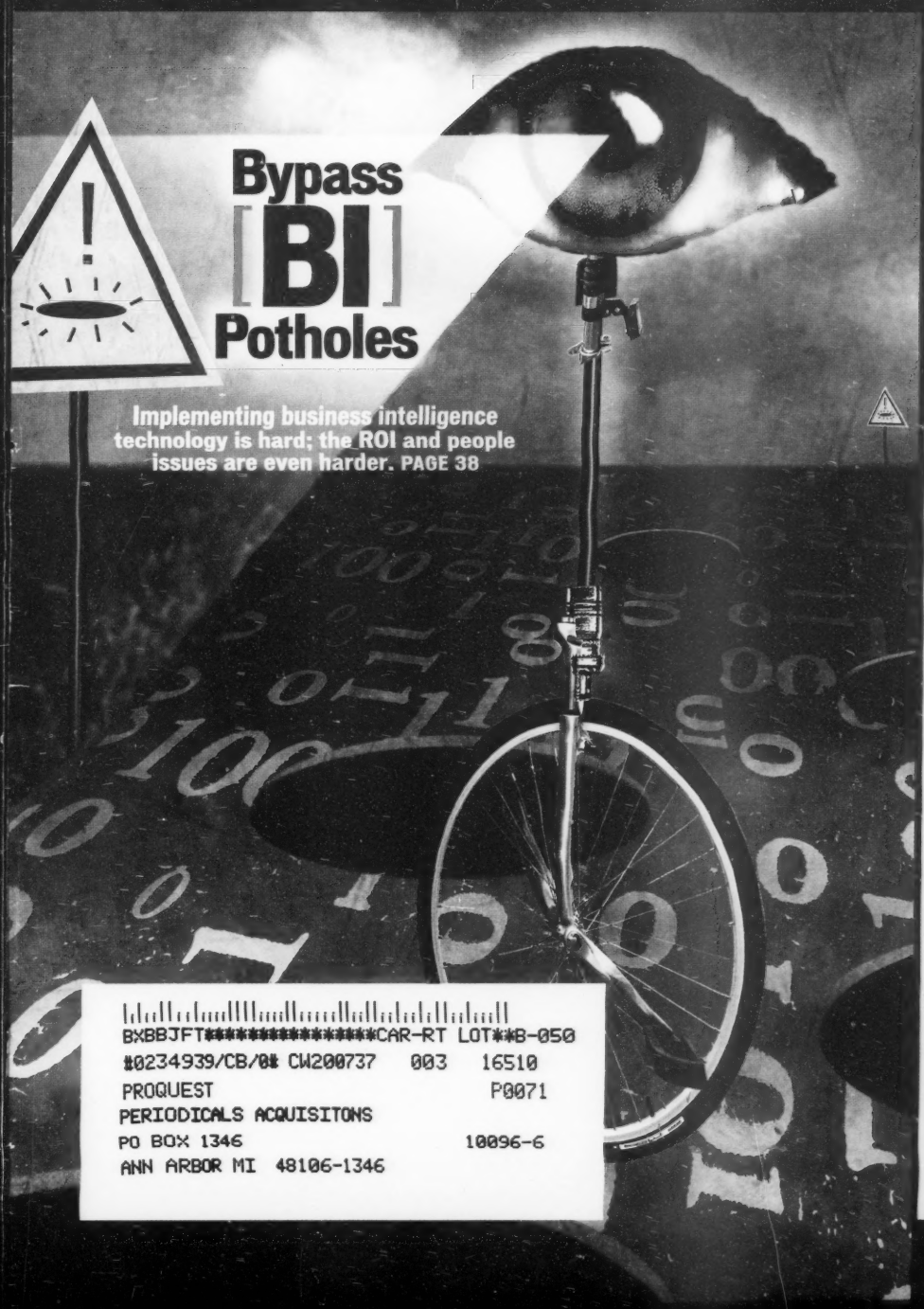

Bypass [BI] Potholes

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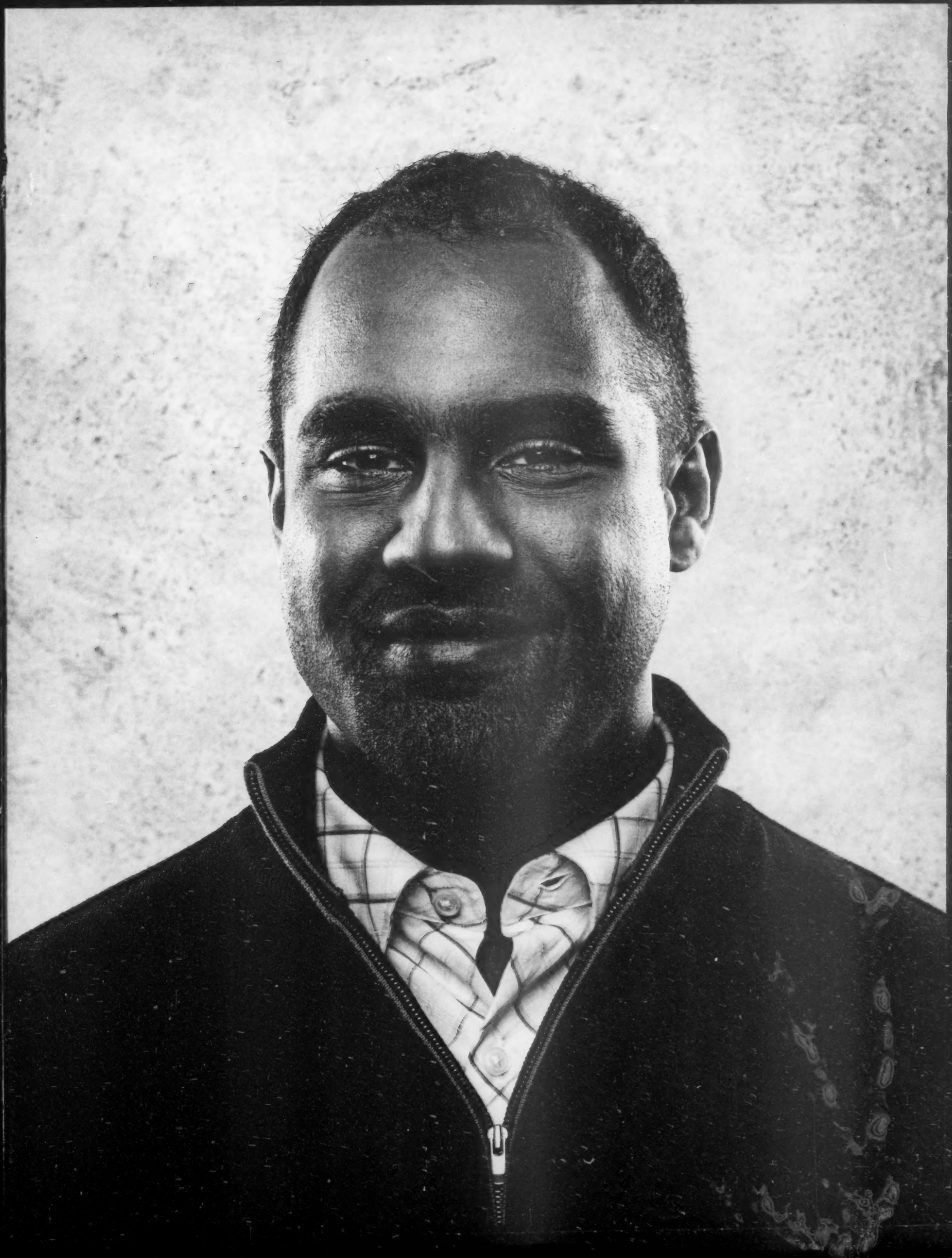

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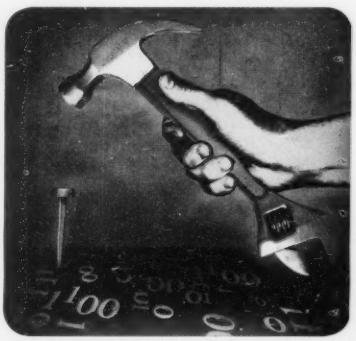

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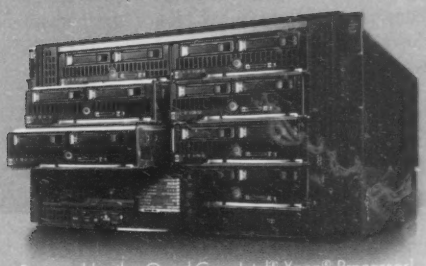

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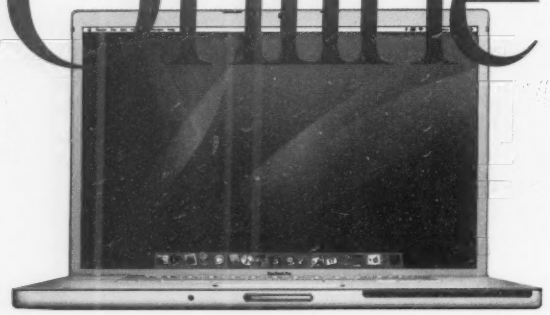

Macs on the Network: Time to Panic?

They're coming! As the consumer market begins to meld with the corporate world, Macintosh computers could make inroads at large corporations, giving admins one more thing to worry about. computerworld.com/networking

Dark Secrets and Ugly Truths: When Ethics and IT Collide

With high-level network-access privileges and superior technical knowledge, IT workers can inadvertently find themselves in ethically sticky situations. Should they blow the whistle or look the other way? computerworld.com/careers

Eight 'Hidden Gems' in Data Protection Software

Not all good storage software comes from industry giants such as IBM, Symantec and EMC. We found a sample of storage management applications that are relatively cheap, effective and easy to use. And they handle everything from simple backup and restore operations to continuous e-mail protection for BlackBerries. computerworld.com/storage

Emergency! When a Message Has to Get Through

After tragedies such as the Virginia Tech shootings and the Minneapolis bridge collapse, organizations are paying more attention to emergency notification services. We offer tips from the experts. computerworld.com/networking

Blog Spotlight

Free iPhone Unlocking Tool Unleashed

There are now several ways to "unlock" the iPhone, making it usable with services from providers other than AT&T. This could be the carrier's worst nightmare, blogs Ryan Faas. computerworld.com/blogs/node/6177

FCC: U.S. Doesn't Need Free Wireless Broadband

The FCC once again is siding with big telcos at the expense of consumers. This time around, it killed a plan that would offer free wireless broadband to 95% of the U.S. Preston Gralla isn't surprised. computerworld.com/blogs/node/6173

Relational Database Pioneer Says Technology Is Obsolete

Relational databases have been powerful tools in techie hands for more than 30 years, but it's time to lay the technology to rest – and that's according to Michael Stonebraker, one of the men responsible for developing it. computerworld.com/bi

Opinion: Apple Takes a Pass On the Enterprise Prize

For the first time in decades, Apple has a chance to compete in the corporate computing marketplace. But does the company have the chops to take on Microsoft? computerworld.com/mac

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Disappearing Stock

Bosses are quick to take credit for their solutions, writes pilot fish. But they're not so quick to admit that they created the problem in the first place.
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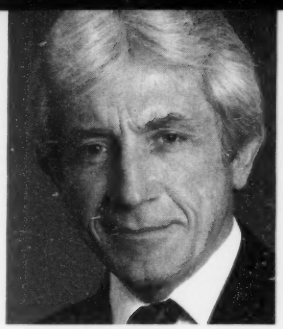
■ EDITOR'S NOTE

Don Tennant

A 2028-29 Issue



DID YOU happen to read the article "The White Man's Club," by *Computerworld*'s Julia King, about the strikingly low percentage of minorities in IT management? It echoes a lot of what I wrote about in my Editor's Note two weeks ago, including the fact that only 3% of senior IT pros are African-American.

King's story captured some interesting insights from Priscilla Brown, a 34-year-old African-American senior systems programmer.

"As a minority, you can get lost, because you're there by yourself and have no one else to recognize your experiences," Brown said. "You feel that isolation. It may not be intentional [on the part of nonminority employees], but you still feel it." That sentiment was consistent with the findings of the 2006 study by Global Lead Management Consulting that I referenced in my column "Building Trust."

If the similarities between the thrust of King's article and what I wrote about two weeks ago don't seem particularly noteworthy, consider this: King's story appeared in the Oct. 18, 1993, issue of *Computerworld*.

For me, the most poignant part of that 14-year-old article was a comment made by Willie Fields, a 54-year-old African American who was director of corporate business systems at Kraft General Foods North America. Fields said he didn't see companies advancing in the area of diversity. "PR is the primary issue today," he said. "[True] cultural diversity will be more of a 1998-99 issue."

Well, not so much, Mr. Fields. It seems we still haven't made much progress at all, nearly a decade after you thought things would start changing.

I want to be clear that I'm not pointing any fingers here. The fact is, Computerworld Inc. is about as diverse as a box of Cheerios, so I have no business preaching from some sanctimonious pulpit, nor any inclination to do so. My aim is simply to raise the topic higher on the agenda of IT community discourse.

■ I'm not pointing any fingers here. Computerworld Inc. is about as diverse as a box of Cheerios.

I find it telling that 50% more readers wrote to explain why there are "Caution: Horses" signs on horse trailers (a question I raised in a tongue-in-cheek column three weeks ago) than to respond to my column about African Americans in IT the following week.

That's not to say that the feedback I did receive on the latter column lacked passion.

"As a 30-year IT educator, it appeared to me that my black grads were hired more often to fill quotas than for their abilities," one reader wrote in a comment on our Web site. "Black students had difficulty in class because of their culture and intrinsic ability. Their culture has little respect for education, they often have a 'victim' approach to life. . . . These problems manifest themselves during job interviews and on the job."

"We certainly don't all have the same cultural and intrinsic backgrounds and abilities," a reader who identified himself as black replied with far more restraint than I would have been able to muster. "I've been reading since I was two. My mother graduated from high school when she was 14 years old . . . [so] we're not oblivious to the value of education." And further: "Others just have to do their jobs, but blacks have to work harder to earn trust and then, in addition, do their jobs," he wrote. "As long as people have an improper view of blacks, the struggle will continue."

That's a difficult position for a lot of people to wrap their heads around, as an e-mail from another reader exemplified.

"How about this," he wrote. "A good leader advocates for all his or her people, not because of their color or sex or whatever, but because they are a valuable resource to the company or operation."

Great idea. The problem is, it's just not going to happen across the board until personal relationships and bonds that now are so weak become genuinely strengthened. It seems that opening our eyes to that fact will be more of a 2028-29 issue. ■

Don Tennant *is editor in chief of* Computerworld. *Contact him at don_tennant@computerworld.com.*

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Sprint Makes Case For 2.5-GHz WiMax

There seems to be confusion around coverage (700 MHz) versus capacity (2.5 GHz) ["Sprint Details WiMax Plans, to Offer Access Via Millions of Device Chips," *Computerworld.com*, Aug. 16]. While 700 MHz propagates well (too well), it also introduces interference (according to recent FCC tests). Whether you're a carrier, a customer or an innocent bystander, that's not a good thing. Your readers need to understand frequency management and capacity implications to appreciate why the WiMax business case makes sense. While there are pros and cons for both spectrum bands, Sprint's 2.5-GHz spectrum holdings work best for our purposes.

Consider these factors: 2.5-GHz spectrum allows for higher throughput and capacity; 10 to 15 sites are required at 700 MHz to equal one Sprint 2.5-GHz site for the same capacity; low-cost WiMax 2.5-GHz chip sets are expected in 2008, while 700 MHz isn't finalized in any standard and product availability is unlikely before 2010.

■ **John Polivka,** *APR, Sprint Nextel Public Relations*

A Rural Solution

I live in Pendleton County, Ky., a rural area that until recently had no broadband outside of the county seat ["Broadband's Road Less Traveled," Opinion, Aug. 27]. If you didn't live within 10,000 wire feet of the telco's central office, you got dial-up. And not even good dial-up. Most of the lines were pretty noisy, so a 19Kbit/sec. connection was considered "good."

The county administration and some local leaders realized how bad the situation was and saw that it was stifling growth. They talked to the telco and cable company that served the towns in the county, but those companies had no interest in expanding.

So these leaders tried a different approach. They went to a Motorola Canopy wireless broadband system that provides a choice of 125Kbit/sec. and 512Kbit/sec. connections using something like three towers placed around the county.

I'm a happy user. I consider myself lucky to live where county leadership and community involvement got it done.

■ **Mark Faulhaber,** *Butler, Ky.*

The Virtues of jEdit

In the article on Linux text editors ["Linux Text Editors: Do Any Make the Grade?" *Computerworld.com*, Aug. 17], Sharon Machlis didn't try jEdit, by far my favorite editor on any platform. It's one program I have on all my machines — PC, Mac and Linux. It's easy to use, yet very powerful and almost infinitely extensible. It has all the important stuff — syntax highlighting, search with regexp, macros, the ability to edit/view multiple files at once, etc. And there's a large community of users creating custom plug-ins for things like Web development, XML editing, Java programming and XSLT debugging. If you're looking for a killer text editor that runs on Linux (and that you can also use when you have to switch to a Windows machine), check out jEdit.

■ **Clay Helberg,** *principal writer, SPSS Inc., Duluth, Minn.*

'Caution' Signs Make Horse Sense

Don Tennant wonders why a horse trailer needs a "Caution: Horses" sign ["Defying Explanation," Editor's Note, Aug. 27]. It isn't there for his safety. Horses are easily startled, so other drivers need to be reminded not to make loud noises or cause the horse trailer to make a quick stop or sudden turn. Horses are thousands of pounds of nerves, muscle and bone, and that combination moving at any speed deserves some caution.

■ **Patrick Eiting,** *South Bend, Ind.*

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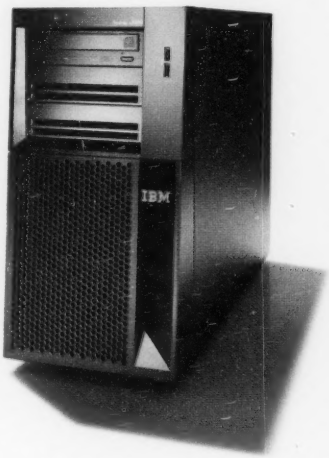

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News Digest

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THE WEEK AHEAD

MONDAY: A European court in Luxembourg is scheduled to issue a decision on Microsoft's appeal of the European Commission's 2004 antitrust ruling against the company.

MONDAY: Salesforce.com will begin its annual user conference in San Francisco. And AFCOM's Data Center World conference will get under way in Dallas.

WEDNESDAY: In New York, SAP will debut its first software-as-a-service offering, a set of applications for midsize users.

PHOTOS BY DEAN STEVENSON

DATA CENTER

Green IT Is More Than a Moral Mandate, Users Say

SCOTTSDALE, ARIZ.

IT'S FASHIONABLE to try to turn the notion of environmentally friendly computing into a morality play.

But it's more likely that eco-IT will take off because of its potential for cost savings and because new technology gear increasingly includes environmental components like energy- or space-saving features, said attendees at *Computerworld*'s Infrastructure Management World conference (pictured above) held here last week.

In an informal poll of the 200-plus attendees, fewer than a dozen people raised their hands when asked whether the push for green IT is a fad. More than 90% said environmentally friendly computing is already a reality.

The poll results are in line with the results of studies done by Jed Scaramella, an analyst at research firm IDC. "Green IT is a foregone conclusion; it will be part of your next data center," he said.

When home mortgage company Fannie Mae built an eco-friendly data center rather than a traditional one, the estimated percentage saved on construction costs was "in the single digits," Brian Cobb, senior vice president for enterprise systems management and IT.

Fannie Mae's two-year-old Urbana, Md., data center recycles water, accommodates bicycles and electric vehicles, and has an air-quality system that removes many harmful chemicals and prevents them from re-entering the building, Cobb said.

He noted that the facility is certified as meeting LEED (Leadership in Energy and Environmental Design) benchmarks set by the building industry's U.S. Green Building Council.

"In IT, we have a responsibility to be as efficient as possible," Cobb said. "Now I'll always make sure to consider the green component. That doesn't mean we'll always land on it, but I'll always put it in the mix."

Scaramella also cited rapidly rising IT energy costs as a key reason to turn to eco-friendly technologies.

Ten years ago, about 17 cents out of every dollar spent to purchase and operate a new server went to power and cooling, according to IDC. Today, the cost is 48 cents, said IDC, and if things don't change, it will eventually grow to 78 cents.

— Johanna Ambrosio

DATA CENTER

VMware Offers Virtualization on A Server Platter

VMWARE INC. hopes to make virtualization software as common in data centers as ketchup is on hamburgers, via a "thin hypervisor" that IBM, Hewlett-Packard Co. and Dell Inc. all plan to embed in their x86 servers.

Building VMware's new ESX Server 3i into systems should make it easier to set up virtual servers, said Joe Whorton, a software engineer at a financial services firm that he asked not be named. Systems could just be "stacked and racked," he said at VMware's user conference in San Francisco.

GETTY IMAGES

But Thomas Andersson, infrastructure director at steel maker SSAB Svenskt Stal AB in Stockholm, said that although hardware vendors include many features in their systems, "few of them are actually used."

XenSource Inc. also announced an embedded hypervisor this month, but no server vendors have publicly committed to use it thus far.

– PATRICK THIBODEAU

CAREERS

Ex-IT Worker Sues Over Firing in Disk Theft Case

GETTY IMAGES

IN DECEMBER 2005, a thief broke into Steven Shields' car outside his Oregon home and walked off with unencrypted computer disks and tapes containing personal information on 365,000 patients of Providence Health System.

The breach was the largest of its kind in Oregon and led to a class-action lawsuit against the Portland-based health care provider. A nine-month investigation by the state attorney general into delays in notifying affected individuals ended with Providence Health agreeing to pay $95,000 to settle patient claims.

Now, in a new twist in the case, Shields — a former IT worker at Providence Health — has filed a wrongful termination lawsuit claiming that he was fired in February 2006 simply because he reported the theft to law enforcement officials.

The lawsuit, filed late last month in Multnomah County Circuit Court, seeks $1 million in damages for lost wages and emotional distress caused by the firing.

"Steve was a 10-year employee with a good record," said Kevin Keaney, an attorney for Shields.

The theft occurred on Dec. 30 or 31 in 2005, but affected people were not notified until the end of January 2006. Shields was fired the following month.

Keaney noted that the lawsuit was filed under Oregon's whistle-blower law, which forbids companies from firing employees for filing a report to law enforcement authorities.

Keaney said that Shields had transported the patient data tapes to his home as part of the company's backup protocol.

A spokesman from Providence Health confirmed the legal dispute but declined to comment further because the lawsuit is pending.

Shields was one of four Providence Health IT employees to lose their jobs following the incident.

Providence Health has until later this month to formally respond to the lawsuit.

— Jaikumar Vijayan

Short Takes

The SCO Group Inc. filed for Chapter 11 bankruptcy protection on Friday, one month after a federal judge ruled that the copyrights to Unix are owned by Novell Inc. – not SCO. The company said its board decided that the filing was "in the best long-term interest of SCO," which plans to continue its normal business operations.

EMC Corp.'s VMware Inc. division has acquired Dunes Technologies, a Lausanne, Switzerland-based maker of virtual environment automation technology. The purchase price was not disclosed.

Sun Microsystems Inc. has agreed to acquire most of Cluster File Systems Inc.'s assets and its Lustre File System, an open-source software distribution tool, for an undisclosed price.

CORRECTION

The title of Informatica Corp. executive Tony Young was misstated in an interview on the Sept. 10 issue's Career Watch page. Young is Informatica's CIO.

SECURITY

Experts Say More Personal Data Is on Stolen Ohio Tape

An Ohio state government backup tape stolen in June contained far more personal data than was first believed, according to a computer forensics firm hired by the state.

When the incident was discovered, state officials said the device contained data on all 64,467 Ohio state employees and tens of thousands of other people, including Ohio teachers.

Two reports released last week by Columbus, Ohio-based Interhack Corp. said an examination of a copy of the missing tape revealed that it also held the names and Social Security numbers of 47,245 Ohio taxpayers and 19,388 former state employees.

Ron Sylvester, a spokesman for the Ohio Department of Administrative Services, said that Interhack investigators also uncovered banking information on 100 state businesses and the federal employee ID numbers from 40,088 businesses.

The incident is expected to cost the state almost $3 million, including $2.3 million to provide affected individuals with credit protection services from Debix Inc., Sylvester said.

The tape was stolen from a vehicle that transported data from government offices to an off-site location where developers were working on the state's new $158 million ERP system, known as the Ohio Administrative Knowledge System.

The breach prompted the state to review how backups are handled at all agencies.

– BRIAN FONSECA

The incident is expected to cost the state almost $3 million.

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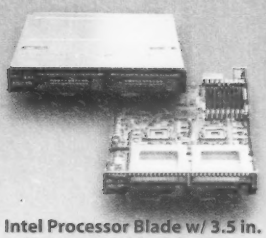
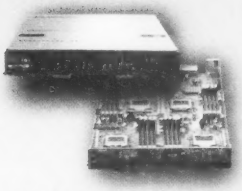


Intel Processor Blade w/ 3.5 in. Hot-swappable Drive Bays



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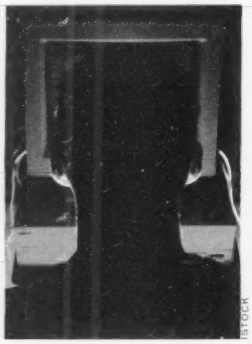

AN IT WORKER at Caterpillar Inc.'s engineering design center in India allegedly used another employee's username and password earlier this year to access and steal about 4,000 confidential documents from one of the company's servers in the U.S.

A Caterpillar spokeswoman in China confirmed that the incident took place and said that a now-former employee at the company's facility in Chennai, India, had been arrested in connection with the alleged data theft.

"We are doing everything possible to cooperate with the authorities to ensure a full and timely investigation," the spokeswoman said. She declined to disclose any further information about the system hack, saying, "The matter is in the hands of local authorities."

According to reports published in Indian newspapers, the alleged perpetrator, identified as 37-year-old M.S. Ramasamy, was arrested by the Cyber Crime Cell of India's Criminal Investigations Department in late July. He has been charged under the country's Information Technology Act with hacking into a server and stealing confidential data.

Ramasamy had left Peoria, Ill.-based Caterpillar and was working for an unidentified IT company in India at the time of his arrest, which took place near Bangalore, according to the newspaper reports.

He is accused of hacking into Caterpillar's Research and Engineering Documents Inquiry system, known as REDI, on multiple occasions in January and February. A recording from a closed-circuit camera and system logs connected Ramasamy to the intrusions, and police in India have since recovered tapes and disks that are said to contain the downloaded documents.

— Jaikumar Vijayan

BETWEEN THE LINES *By John Klossner*

BENCHMARKS LAST WEEK

Sun Microsystems Inc. and Microsoft Corp. expanded their business relationship, announcing that Sun will begin installing Windows Server 2003 on its x86-based servers for any users that want the Microsoft operating system.

Apple Inc. said it had sold its 1 millionth iPhone, 74 days after releasing the mobile device and three weeks ahead of its Sept. 30 target date for reaching that mark.

TWO YEARS AGO: Oracle Corp. announced a deal to acquire CRM market leader Siebel Systems Inc. for a net total of $3.61 billion.

Global Dispatches

Malware Found At U.S.-Run Internet Sites

ST. PETERSBURG, RUSSIA – Two U.S. Department of State Web sites in Russia could contain malware and should be avoided by users, security vendors warned last week.

Researchers at Sophos PLC in Abingdon, England, said the Web site for the U.S. Consulate General for St. Petersburg had been hacked and was serving malicious software to visitors.

Meanwhile, Santa Clara, Calif.-based McAfee Inc. warned Web surfers to avoid the State Department's Moscow embassy Web site because it has been associated with e-mail messages that contained computer viruses.

A State Department spokeswoman said she was unaware of any breach.

Robert McMillan,
IDG News Service

Ericsson Awards $6M Pact for VPN

STOCKHOLM – LM Ericsson Telephone Co., based here, last week awarded AT&T Inc. a $6 million contract to supply it with an advanced virtual private network in the Middle East.

The contract was awarded as AT&T moves to upgrade its network in the Middle East as part of a $750 million global investment program.

The San Antonio-based telecommunications company, which already operates networks in the United Arab Emirates and Qatar, said it is working on new network nodes in Saudi Arabia and Kuwait and expects to complete those projects by the end of this year and during 2008, respectively.

Grant Gross,
IDG News Service

BRIEFLY NOTED

South Korean antitrust regulators have issued a "statement of objection" against Intel Corp. for allegedly undermining competition in the PC processor market. Regulators said formal charges won't be filed until Intel responds to the statement.

Dan Nystedt,
IDG News Service

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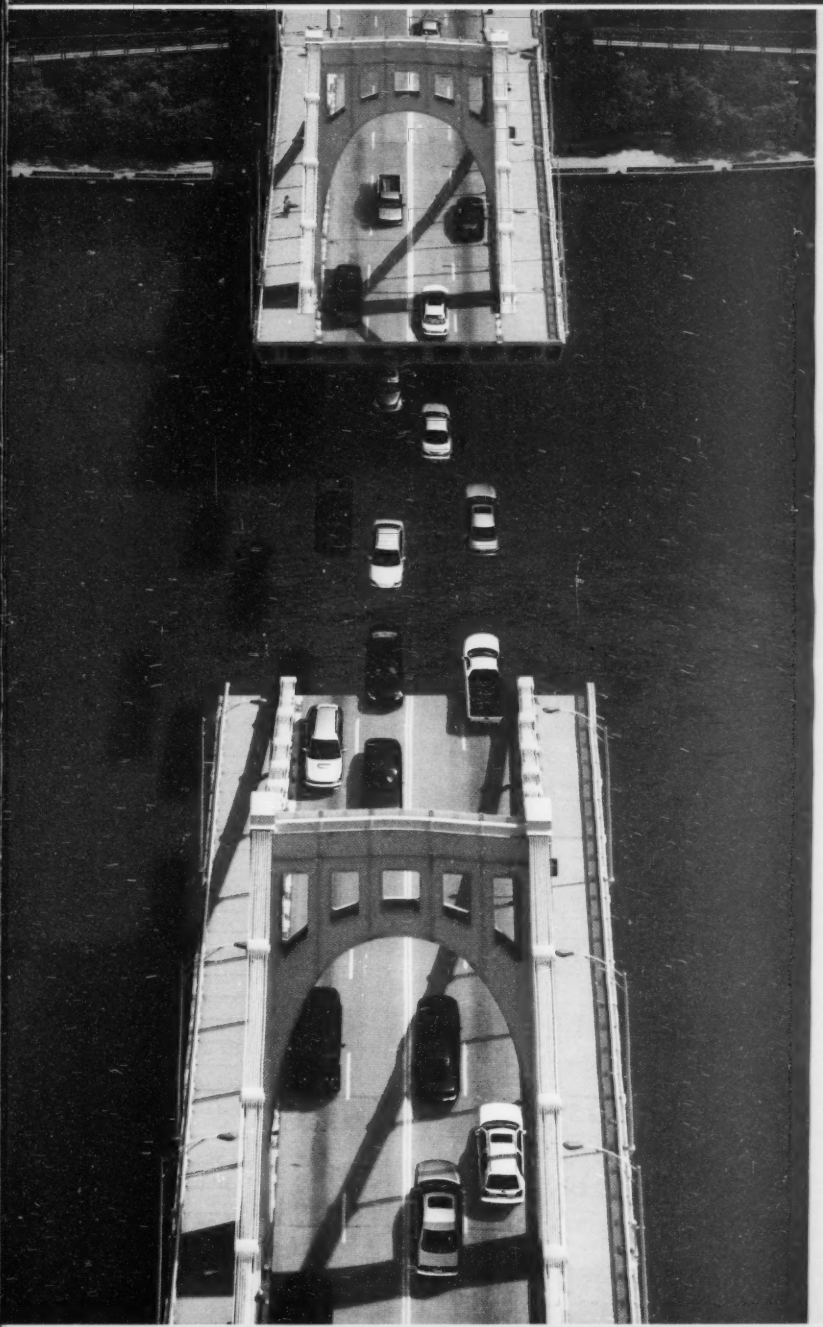

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Stalemate Continues On Hiding WHOIS Info

An ICANN working group fails to reach a compromise on limiting access to data about Web site owners — information that companies use to track trademark poachers.

By Jaikumar Vijayan

PROPOSED CHANGES that would have shielded some of the personal information stored in the Internet's WHOIS database from public view were indefinitely shelved last month, after a working group failed to reach agreement on how or even whether to implement the privacy reforms.

The stalemate among the 60-person working group, which had been set up by the Internet Corporation for Assigned Names and Numbers (ICANN) to thrash out the differences over the proposed changes, was a setback for privacy advocates. But it was welcome news for companies and law enforcement agencies that depend on WHOIS information to go after phishers, cybersquatters, spammers and other online miscreants.

"This is about confidence and trust in using the Internet," said Lynn Goodendorf, vice president of information privacy protection at InterContinental Hotels Group PLC (IHG), the Windsor, England-based owner of hotel chains such as Holiday Inn and Crowne Plaza.

For Internet users, that means "being able to confirm who is operating a particular Web site before conducting a transaction or interacting in some other way," said Goodendorf, who was a member of the now-disbanded working group.

> **"The one thing that we were agreed on is that something needs to be done to fix the current situation."**
>
> **ERIK DIERKER,** WHOIS WORKING GROUP MEMBER

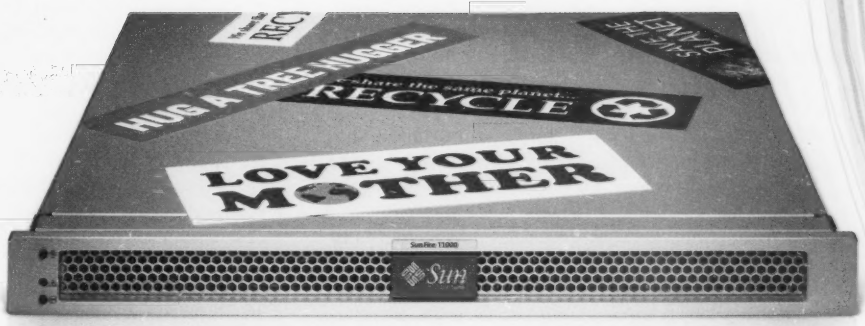
She added that for IHG, the information in WHOIS plays an important role in efforts to track scammers who try to co-opt the company's brands. IHG uses three outside monitoring services to look for domain name registrations that include any of its brand names. On an average day, it gets about 100 alerts from the services, Goodendorf said.

Through WHOIS, Goodendorf said, IHG staffers can separate the 15% or so of the registrations that are legitimate — ones submitted by franchisees, for instance — from the 85% that are not. Then "we're able to take prompt action with cease-and-desist communications," she added.

WHOIS contains the names and contact information of people or organizations that register Internet

Continued on page 20

ILLUSTRATION BY ANASTASIA VASILAKIS



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Continued from page 18

domains, and the contents of the database can be read by anyone.

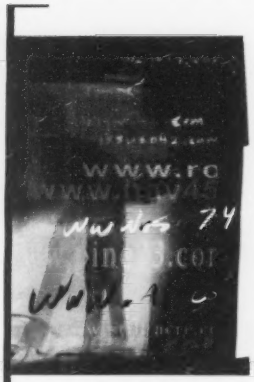
Privacy advocates have balked at the unfettered access, on the grounds that it could expose people to spam and unwanted surveillance. For years, they have called on ICANN to adopt new rules that would enable Web site owners to avoid having their names and street addresses published in the database.

But opponents of the proposed changes contend that maintaining the status quo on storing and accessing data in WHOIS will serve the greater Internet good.

The debate is "a basic disagreement about the relative rights of a tiny minority of Internet users versus [those of] all of the Internet users who have to deal with the mischief" that some domain registrants do, said John Levine, co-founder of the Domain Assurance Council in Trumansburg, N.Y.

Levine, whose organization is developing a standard method of certifying that e-mail messages are from the identified senders, said that only a small percentage of domain name registrants are individuals. Although there is a need to address their privacy concerns, "it is absurd to cripple all of WHOIS for the putative interests of this tiny group," said Levine, another member of the working group.

For more than four years, a task force within ICANN has been trying to reconcile the differences between the two sides. Earlier this year, it proposed an approach called operational point of contact. Under that system, known as OPoC, domain name registrars would have continued to collect contact information as part of all domain name registrations, but the addresses of registrants would have been shielded from public view. The exceptions would be cases in which law enforcement authorities or companies and other trademark owners demonstrated a valid need to see the data.



"This is about confidence and trust in using the Internet.

LYNN GOODENDORF, VICE PRESIDENT OF INFORMATION PRIVACY PROTECTION, INTERCONTINENTAL HOTELS GROUP PLC

The OPoC proposal failed to gain broad support within ICANN, though. Among other things, there were concerns about how the exceptions process would be handled, and when and under what circumstances access to the data would be granted, said Milton Mueller, a professor at Syracuse University's School of Information Studies and a partner in the Internet Governance Project consortium.

OPPOSING FACTION

The ICANN working group, which included corporate users plus representatives from domain name registrars, Internet service providers and law enforcement agencies, was set up five months ago to address the exceptions issue. It came up with several ideas for structuring access to the WHOIS data, said Mueller, who was a member of the panel.

One suggestion, for instance, was to shield the contact information of individual domain registrants while making that of commercial entities publicly accessible.

But none of the proposals received widespread approval from the working group. According to Mueller, members representing commercial entities and intellectual property holders tried to whittle down the OPoC protections and make them available only to people whose Internet activities were completely noncommercial. And they joined with law enforcement and banking interests to seek backdoor processes for gaining access to shielded information based solely on assertions that the data was needed for valid reasons.

In addition, participating registrars voiced concerns about the increased costs they could face because of some of the proposed changes, Goodendorf said. She noted that shielding the contact data of individuals would require the registrars to implement an authentication process to ensure that registrants asking to have their data blocked weren't commercial entities. "The implication was that it would cost [the registrars] money," Goodendorf said.

Another roadblock Mueller identified was registrars' lucrative side business selling proxy services that let registrants hide their identities and contact information from WHOIS queries. "If there is no reform, they can continue to sell privacy to their users, making profits that far exceed those they make on normal domain name registrations," he said.

Furthermore, there was disagreement over accountability issues under the OPoC approach and over the speed at which registrars would be required to respond to requests for access to shielded data, said Eric Dierker, chairman of the general assembly of ICANN's Generic Names Supporting Organization. The GNSO is the body responsible for developing policies for the Internet Domain Name System.

Dierker said that the final outcomes report released by the working group actually downplayed some of the disagreements between members. For instance, the cost concerns of the registrars were glossed over in the report, he noted. "The one thing that we were agreed on," Dierker said, "is that something needs to be done to fix the current situation."

But other members weren't optimistic about a resolution coming anytime soon.

"The WHOIS debate has gone on for years, and [ICANN] needs to call an end to it for now," said Tim Ruiz, vice president of corporate development and policy at The Go Daddy Group Inc., a domain name services provider in Scottsdale, Ariz. "It's been clear for some time that unanimity, or even consensus, on any changes is not possible." ■

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AMD Tries to Find Its Server Mojo Again

The chip maker launches a quad-core Opteron — 10 months after Intel, which is winning back lost sales.

By Patrick Thibodeau

TEN MONTHS AGO, Intel Corp. shipped its first quad-core Xeon server processors. Last week, chip nemesis Advanced Micro Devices Inc. finally answered back.

AMD took the first step in an effort to recapture its momentum in the server market by launching a quad-core version of its Opteron chip. Company officials hope the new device, which was code-named Barcelona, will have the same kind of business impact that the original Opterons did after being released into a world dominated by Intel's 32-bit chips four years ago.

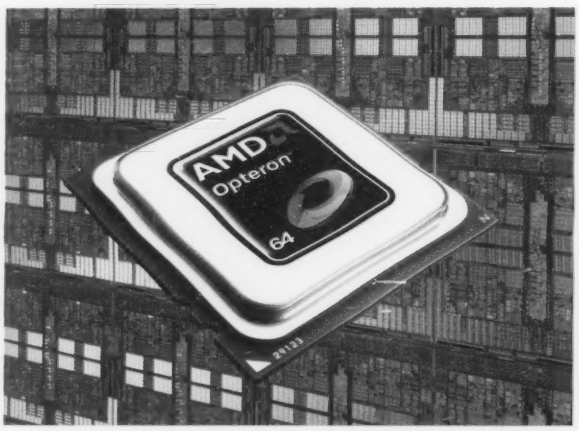
Opteron, the first x86 chip able to run both 32- and 64-bit applications, was an immediate hit with server vendors as well as businesses and high-performance computing users. Its arrival posed the biggest challenge yet to Intel's dominance of the Windows server market.

But Intel has responded to that challenge — sending AMD's share of the server chip market into retreat, according to research firm IDC.

In the second quarter of 2006, AMD-based systems accounted for 15.3% of x86 server shipments worldwide compared with 84.7% for machines with Intel chips, IDC said. But in the same quarter this year, AMD's share slipped to 14% as measured by IDC, compared with 86% for Intel.

When Opteron made its debut, AMD "snuck up on Intel and hit them with a hammer," said IDC analyst Crawford Del Prete. But he added that in recent months, "AMD has been caught pretty much flat-footed" by Intel's quad-core Xeons.

One user that remains sold on Opteron is the Texas Advanced Computing Center, a research facility at the University of Texas in Austin. TACC is using more than 15,000 Barcelona chips to build what may well be the world's largest supercomputer, with an expected processing capacity in excess of 500 TFLOPS.



■ The Texas Advanced Computing Center chose AMD's new processor for a supercomputer because of the chip's floating-point and memory-sharing capabilities.

Tommy Minyard, TACC's assistant director, said that when the $30 million system is finished early next year, it will include about 63,000 processor cores. The supercomputer, called Ranger, is based on Sun Microsystems Inc.'s Sun Blade 6000 servers and will be used primarily for academic research.

Opteron was picked as the processor because of its floating-point and memory-sharing capabilities, Minyard said. When TACC proposed the new system about 18 months ago, it set a chip clock-speed expectation of 2 GHz — exactly the point at which the first version of Barcelona maxes out. But Minyard said he had been hoping that the quad-core chip would run a little faster when it was finally released.

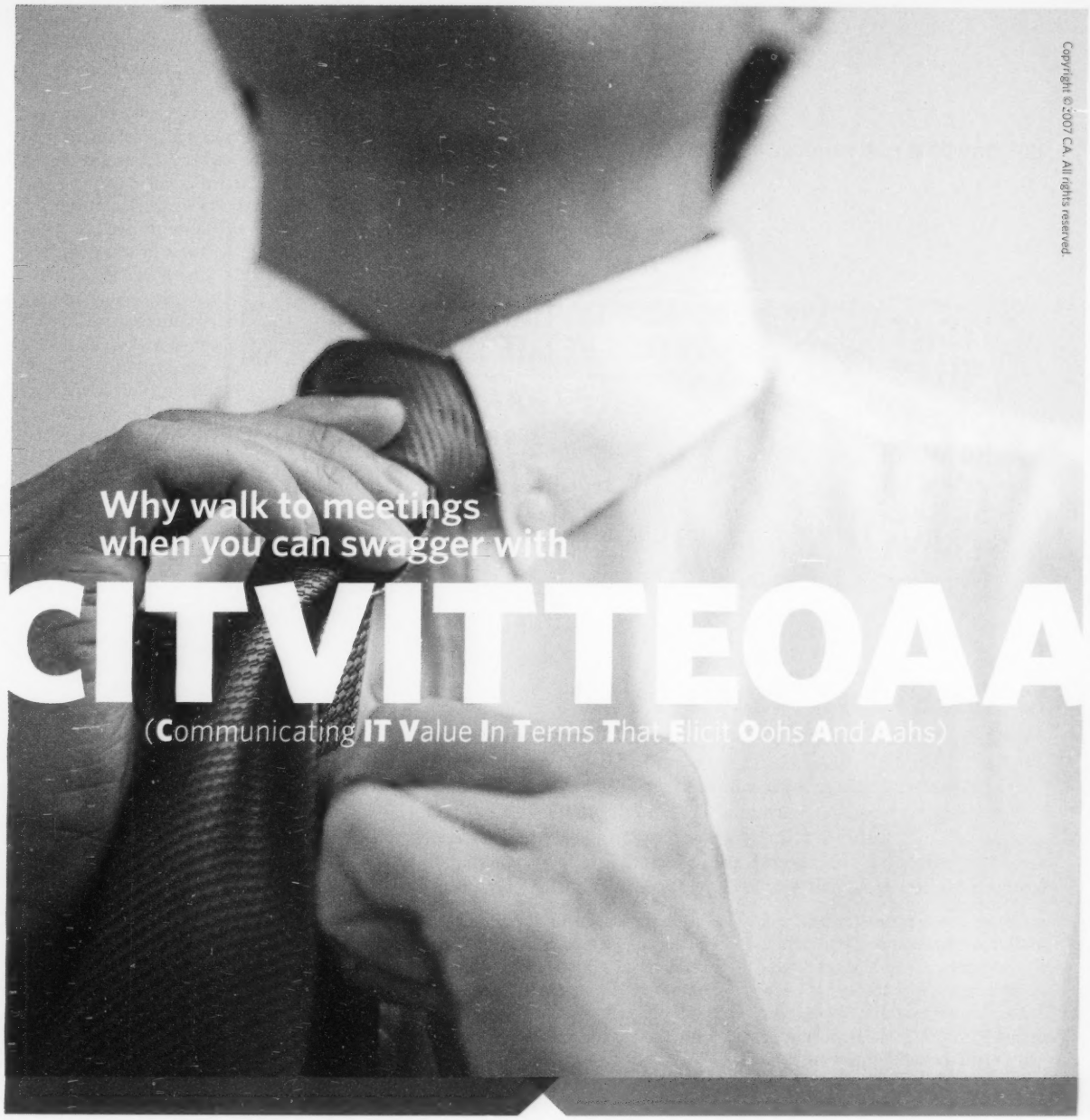
AMD officials said at the Barcelona launch announcement in San Francisco that a 2.5-GHz version of the processor will be ready to ship in December.

And executives from Dell Inc., IBM, Hewlett-Packard Co. and Sun appeared in person or via video to say they plan to add the quad-core Opteron chip to their respective server lines. Shipments of systems based on Barcelona are scheduled to begin as early as next month.

Hector Ruiz, AMD's chairman and CEO, said the initial Opteron release raised the bar "for what an industry should expect from a processor company." He contended that the quad-core chip will have "a similarly profound effect on computing," despite Intel's time-to-market advantage.

Barcelona is built on a single die, unlike Intel's dual-die approach, and it connects the cores on a chip directly to a system's memory and lets them share it. Nathan Brookwood, an analyst at Insight 64 in Saratoga, Calif., described AMD's chip design as "elegant."

But AMD is running uphill — and Intel isn't standing still. The week before the Barcelona launch, Intel announced the Xeon 7300 line, which is designed for high-end servers running workloads such as databases and ERP applications. And on the same day that AMD made its announcement, Intel raised its overall third-quarter revenue forecast, citing stronger-than-expected demand for its products worldwide. ■



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MATTHEW FAULKNER

E-mail Shifts to Web

E-MAIL IS a horizontal application that has become critical to everyone's business. That's why your data center is littered with Exchange or Domino servers hosting scads of mail accounts. Satish Dharmaraj, CEO of Zimbra Inc. in San Mateo, Calif., thinks it's time to consider tidying up your mail server sprawl by offloading e-mail services to his company. Now, you may think a browser-based Web mail service would meet resistance from users put off by an unfamiliar user interface and by administrators who demand the policy-based management and compliance-capable tools of client/server e-mail systems. Well, think again. Running inside Internet Explorer or Firefox, Zimbra has an interface that's a dead ringer for Outlook. Dharmaraj says AJAX technology even lets users read and write missives while untethered from the Internet and synchronize once they reconnect, just as with corporate mail systems. Policy-based archiving services will be available with the Zimbra 5.0 release coming next month, he says. And you can store messages for compliance purposes on your own site or at Zimbra's data center. Zimbra already has more than 9 million commercial users. Pricing varies for business, education and Internet service provider customers.

Forget Notes and Outlook – move corporate e-mail to the Web, argues Dharmaraj.

Utilities Smarten Up

With the passage of the Energy Policy Act of 2005, electric, gas and water utilities throughout the U.S. were compelled to review the possibilities of deploying so-called advanced metering infrastructure (AMI) equipment, including smart meters, in hopes of reducing power consumption. Although AMIs aren't required, most utilities are enthusiastic about the potential two-way communication capabilities of smart meters, claims Chris Camino, senior vice president and general manager of SAP America Inc.'s utility practice in Newtown Square, Pa. The reason, he says, is that AMI equipment gives utilities the data they need for demand planning, more precise billing and targeted services for customers. All of that, Camino argues, requires back-office operations that can crunch the data. For example, billing systems need to know how much energy a customer is using and whether the utility has an off-peak rate structure. Billing software must also be able to give credits to customers who have solar panels that produce extra power for the grid. So, the next time you get your power company's invoice, don't think of it as a bill; consider it a potential green initiative.

Camino: Billing systems can help save energy.

Get Control Over PCs

By mid-2008, PC makers should be offering IT shops extra security for their laptops with FailSafe, BIOS-level software from Phoenix Technologies Ltd. in Milpitas, Calif. According to Gaurav Banga, Phoenix's chief technology officer, IT shops with PCs from resellers that use Phoenix's service will be able to remotely control the content and functions of their mobile devices from a Web console. Anytime one of their PCs is connected to the Internet, they will be able to retrieve, encrypt and erase files, or even disable the device. They could also use IP tracing, Wi-Fi location data and other forensic techniques to zero in on a missing laptop's location — or, if it's equipped with a GPS chip, pinpoint it precisely. If the PC has a webcam, they could even take a photo of the user to see who's running it. Add-on security tools offer similar features, but Banga contends that FailSafe earns its name because it can be loaded in firmware with the BIOS. That means it can't be bypassed by booting the PC from a different operating system on a CD. Pricing will be determined by the resellers. ■

10M

Number of laptops that PC makers will ship annually with FailSafe in BIOS, predicts Phoenix Technologies.

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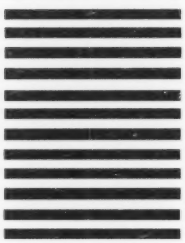

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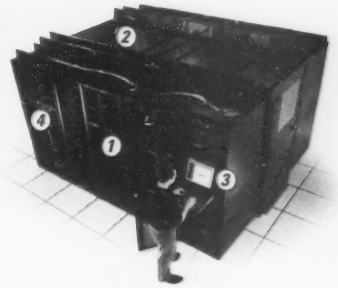

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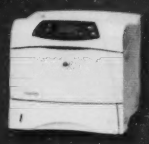

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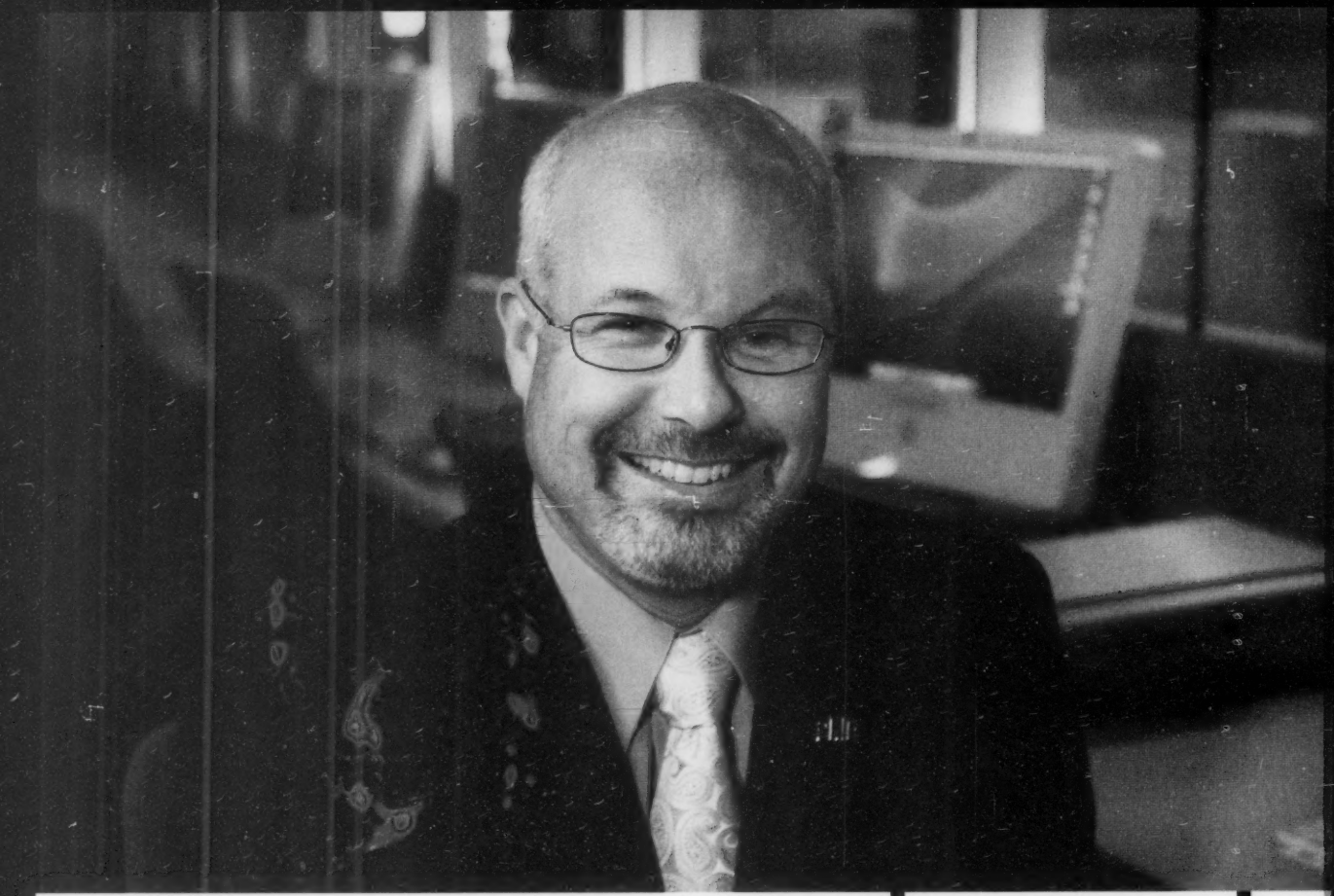

■ THE GRILL

J. Brice Bible

Ohio University's new **CIO** talks about how to pick up the pieces after a **data security breach**, how to build a **vision of the future** and why **walking into a river of alligators** can be a good thing.

In April, J. Brice Bible left his job as interim CIO at the University of Tennessee to take on the CIO post at Ohio University. Several major, nationally publicized data security breaches had recently occurred, the previous CIO had resigned, and two IT staffers had been fired for their alleged roles in the security breaches.

Your first day on the job, you had to jump right into problems from the past. How did that feel? I was literally walking into a river of alligators, but that's not always a bad thing. It can be a character-building thing. I saw a unified university — everyone from the board to the president to the provost to the faculty to central IT to the students. There was a community interest not just in fixing the problems, but in making the situation better and stable over the long term. I was very pleased to see everyone want to pull in the same direction and want to work together.

Continued on page 30

PHOTO BY RICK FATICA

Dossier

Name: J. Brice Bible

Title: CIO

Organization: Ohio University

Location: Athens, Ohio

Last book read: *Black Wind*, by Clive and Dirk Cussler

Favorite vacation destination: Appalachian or Rocky Mountains

First job: "I was born on a dairy farm, so I was born working."

Job he wanted as a child: "I wanted to play football for the Miami Dolphins, and I was going to be a cowboy in Wyoming. That was my 10-year-old dream."

Fantasy job: "Can I go back in time and be the sixth musician for The Eagles? I'd play rhythm guitar. It doesn't matter."

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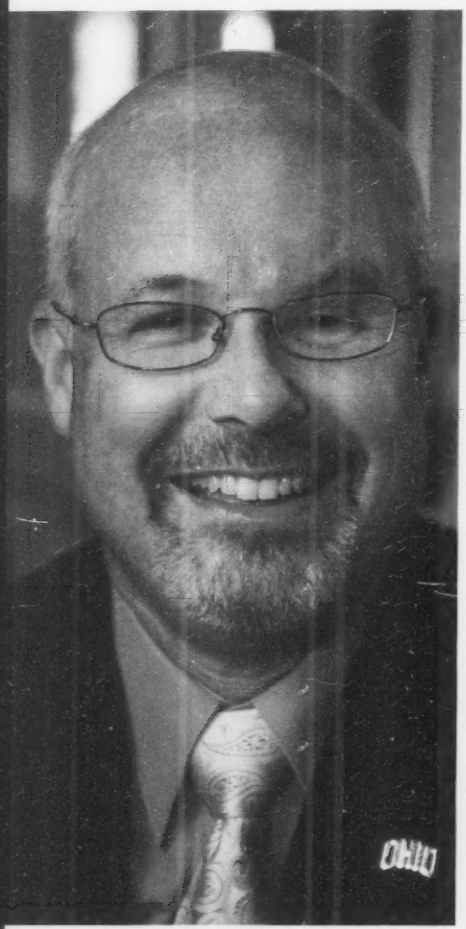

"Do you know how many CIOs would give anything to get their university leadership and students and faculty engaged in a substantive conversation about their dreams and visions for IT?

Continued from page 28

How did you approach the job? It was a unique experience, and it still is. I had to gather as much information as rapidly as I could to try to get a solid sense of what was going on, of what had happened and what was available to go forward, and how prepared we were from a technical and university point of view. I did a lot of listening, had a lot of conversations with anyone who had been affected. I wanted to hear their goals, their expectations, what they saw as solutions and what things they thought needed to be done. I continue to do that. I am still in listening mode.

From a technology point of view, there are some basic things that have to happen to have not just a secure IT system, but a reliably performing, efficient and flexible [one]. You must have a modern, reliable, redundant, pretty flat-level network. You have to look at the operations of IT in terms of the servers and storage, operating systems, middleware and your authentication strategies. The more unified those are and standardized on fairly open standards, then the more likely that you'll have a stable, reliable environment.

I believe the IT staff needs to see a vision, not just a road map, and know their role in getting there. IT doesn't run by a CIO alone or even by management. It's the technology people, the experts, who make it happen, so I spend as much time as I can engaging them in the conversation. Maybe we don't have the pavement all the way 100 miles out, but we're at least starting to get it roughed in.

When you arrived, were the IT staff members disillusioned or scared about their jobs and the department? Have you seen a difference since you arrived? "Disillusioned" is a good word. I think they were concerned about where we were going from there, concerned about stability and having a cohesive plan. I guess you'd have to ask them if we are getting there. The feedback we're getting is that we're taking the right steps forward.

How much has been accomplished so far or is under way in making needed changes? At this time last year, a 20-point improvement plan was brought forward by the university [to begin to fix the IT system problems]. We were already starting a lot of these initiatives [when I arrived]. I took that report and turned it into a pseudo-strategic plan. So what I'm doing is focusing our resources around each of these and making sure that we line those up with a governance model. Obviously, these are long-term goals. I'm looking at a five-year plan.

Was it tough to get started here after the IT staff firings, the CIO's resignation and the publicity from the data security breaches? It was, and it still is. The university has some challenges, absolutely. Were a lot of those challenges different than at other universities? Probably not. What's happened, though, is that because of all this, our president, our provosts, our vice president, our students and faculty and IT — they're all willing to talk about it. Do you know how many CIOs would give anything to get their university leadership and students and faculty engaged in a substantive conversation about their dreams and visions for IT? This is a great opportunity for me to be a part of that conversation and not be out there waving my arms and saying, "Hey, come and listen to me." They want to talk about it.

A few years from now, we'll remember what happened, and we'll have learned from it, and we will not go back. But you'll see some tremendous progress in IT and the university because everyone's willing to be a part of the solution. It sounds like I'm running for office now, doesn't it? But it's true.

If you were the CIO when the breaches occurred, what would you have done differently? That's probably not fair, because I have 20/20 hindsight and 12 months of time have passed since the problems came up. One of the things [is], if you do have an incident, you need to be careful about how you react to that one incident, because you don't know what other rocks will be turned over. That's why you're not going to hear a single CIO guarantee that this isn't going to ever happen again. You can't guarantee that, because you just don't know what's out there.

— Interview by Todd Weiss

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■ OPINION

Thornton A. May

Wall Street IT Can Teach Main Street

WE ALL can learn a lot by taking a look at the technologists who work on Wall Street, that realm of big money and big finance that centers on but isn't restricted to Manhattan. The trouble is, it isn't easy to get a peek. Wall Streeters, while very good at looking out at what is going on in the broader tech community, aren't so keen on others looking in. They like their privacy.

It's a shame that sightings of the elusive Wall Street IT executive (*digitus bigbukus*) are so rare, because what they know is very valuable, no matter what street you live on. Are you among the masses on Main Street, that mythological land of risk-averse average Joes and Janes? Wall Street could give you a wealth of information about uptime and recovery. Are you on Pennsylvania Avenue, working in the government agencies that impact commercial activity? Wall Street has important insights into security. Or is your domain Madison Avenue, the center of marketing in America (now in the midst of a massive, technology-induced transformation that will be the topic of a future column)? Wall Street could tell you a thing or two about system interdependency. Or maybe you're on Hollywood Boulevard, leading the content charge in one of the media, entertainment or communication companies that are on the bleeding edge of intellectual property management, social network monetization and collaboration with users (as I discussed in my May 28 column, "Content Cluster Canaries"). Wall Streeters, more than anyone else, can tell you about pace.

■ Unfortunately, there is little cross-pollination between those who do technology on Wall Street and those on Main Street.

Unfortunately, though, there is little cross-pollination between the people who do technology on Wall Street and those who do technology on Main Street. In fact, they rarely cross paths. At IT conferences, one can expect to run into retailers; commercial bankers; insurance folk; state, local and federal government executives; and even the scarce but increasingly out-and-about health care CIO. Rarely will one come across an IT executive from Wall Street. Wall Street technologists, like those in many vertical markets, have their own language, their own conferences, their own headhunters and even their own sources of information.

Wall Street IT executives are the best in the world at using technology infrastructure to create competitive advantage. On Wall Street, no one ever asks whether IT matters. Wall Street pushes the edge of what technology can do. A 1-millisecond advantage in trading applications can be worth $100 million a year to a major brokerage firm. Five years ago, Wall Street CTOs would have been talking about seconds, not milliseconds; in 18 months, they will be working in microseconds.

Then there's the scope, scale and consequence of Wall Street IT. The stock market's update rate — the real-time data flow on prices and transactions — is about 83,000 messages per second.

Former Federal Reserve Chairman Alan Greenspan once said that he'd rather have the opinion of a trader than that of a mathematician. If you're in IT, that trader's IT guy has the opinion that counts. Add him to your Rolodex. ■

Thornton A. May *is a longtime industry observer, management consultant and commentator. You can contact him at thorntonamay@aol.com.*

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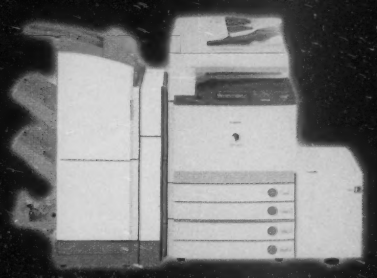

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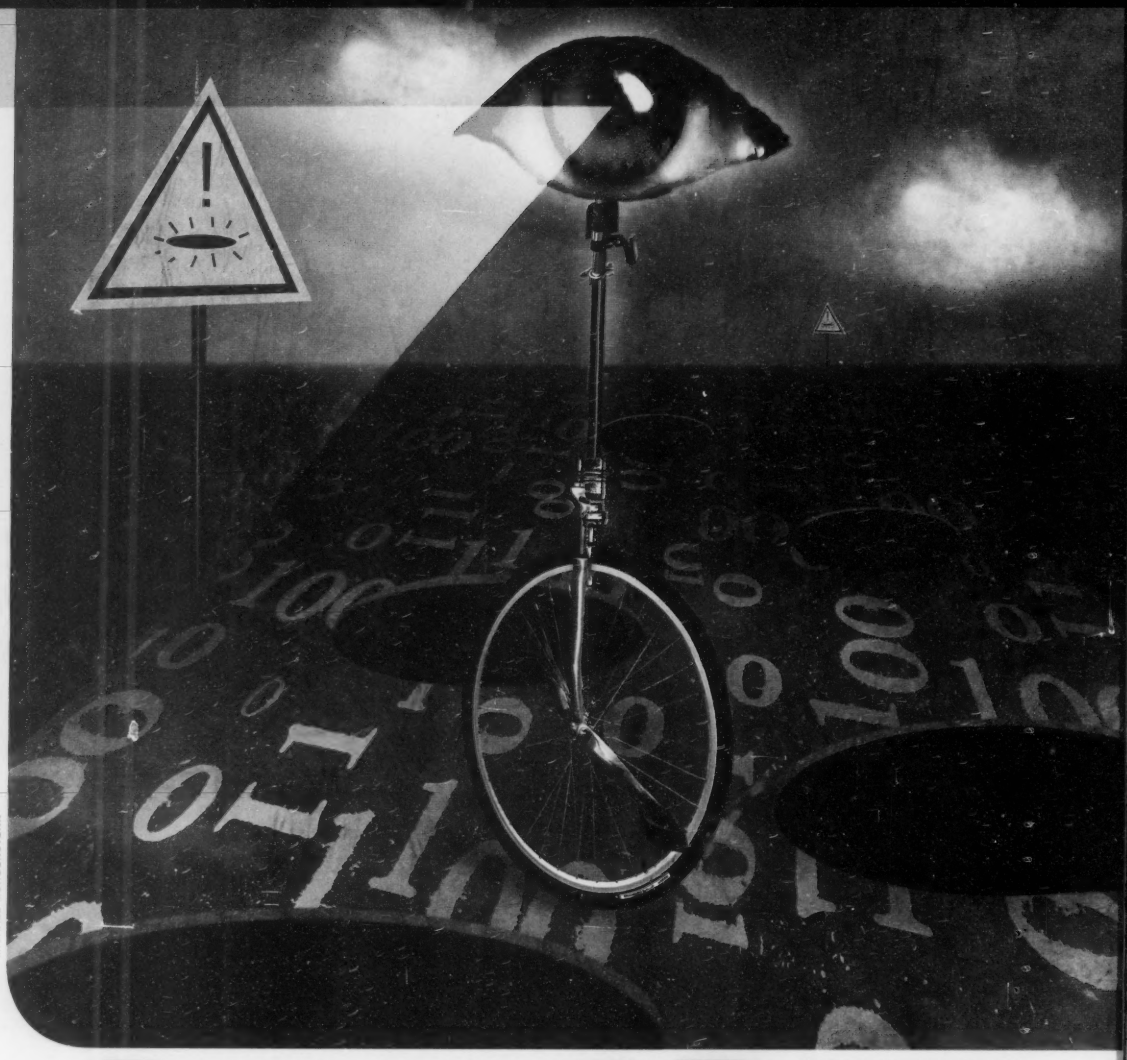


MICHAEL MORGENSTERN

These experienced users already steered their way clear. Now they map out how you can, too. **By Julia King**

BUSINESS INTELLIGENCE might be a maturing technology, but it's far from hassle-free. Tedious technology issues, including the need for comprehensive data cleansing and integrating incompatible computer systems, are still a big part of nearly all BI projects.

But it's the planning, return on investment and people issues that users

5 BI Pothole

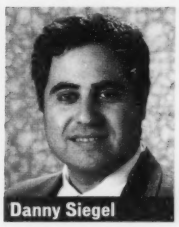
continue to count among their biggest BI problem areas. Here, five IT executives map out their strategies for navigating around user resistance and resentment, creating quick ROI wins and managing overenthusiastic vendors.

1 SETTING USER EXPECTATIONS TOO HIGH.

One of the earliest and easiest-to-hit potholes on the road to BI success is what Danny Siegel describes as the "radical variance" between BI software applications that are "functionally rich and very pretty," and the reality of what can be accomplished with the data a company has to work with.

"People dig themselves a hole by demonstrating next-gen capabilities to a user community that doesn't even have the data to get into standard reporting," says Siegel, director of data warehousing and business intelligence at New York-based Pfizer Inc.

Part of the problem lies in how vendors make their case to IT executives during the software selection process.


Danny Siegel

"Those presentations tend to be highly structured with as much visual appeal as possible, because they're trying to sell business users," Siegel says.

"But the reality is that the true requirements are not around what's visually appealing. They're around getting complex reports turned into something that's navigable," he adds. "It's block-and-tackle reporting that's needed."

Allowing a vendor to show end users a BI system that's replete with color charts, graphs and tables is a near guarantee of user dissatisfaction with the system that ultimately gets implemented. One way around that pothole, Siegel says, is to insist that vendors work with actual company data during all software demos.

"I give the vendor live data with all of its vagaries, inaccuracies and dirt," he says. "Sure, we want a system to be visually appealing, but we also want it to be meaningful. Piloting with your vendors is important because you're showing your users what can [actually] be achieved."

2 PUTTING THE RIGHT TOOLS IN THE WRONG HANDS.

Front-line managers, rather than executives, are most often responsible for worker productivity and daily sales. BI tools can help boost both. But too often, companies first give BI tools to executives, who then push down policy changes, observes Robert Fort, CIO at Virgin Entertainment Group Inc. in Los Angeles.

Virgin, which operates 13 megastores at prime locations such as Hollywood Boulevard and Times Square, first started its BI project in its stores. "You can't manage what you don't measure," Fort says, which is why the company provides its store managers with the most accurate and up-to-date sales information available. Store managers access the BI system, known as Crescendo, via a Web-based portal.

Traffic and sales information is pulled in every 15 minutes, Fort says. His group has developed software-based report templates so store managers can point and click their way through Crescendo to learn things like a store's browser-to-buyer conversion rate, its average hourly sales rate and how those rates compare to other stores' rates or even their own year-ago figures.

"We went back 18 weeks later and measured sales lift," Fort says, adding that 20% of the stores' overall sales increase during that period was directly attributable to the BI system.

JOE TORENO
Robert Fort

"We definitely have changed the culture in stores," Fort says. "They're held more accountable, and they operate more in real time. They can see trends in the middle of the day and correct them."

The bottom line, he says, is this: "If you put tools in the hands of people who clearly want to be making a difference and make them user-friendly, they'll run with it."

3 DISHING UP DATA, THEN LEAVING USERS TO FIGURE OUT HOW TO TAKE ACTION.

Successful BI is all about providing users with actionable information, not just data, says Jim Lollar, Ford Motor Co.'s systems manager for global warranty operations.

When the automaker launched its Web-based warranty portal five years ago, the goal was to give Ford's 10,000 dealers worldwide the ability to quickly identify their warranty problems and see how their costs for warranty repairs measured up against corporate parameters. Previously, they had received the information in a paper report known as the "126 Report."

This tabular report showed how a dealer's performance numbers compared with those of other dealers in their geographic regions. Next, the automaker added six months of rolling data and applied statistical process controls to identify abnormal performance. "Dealers could pull it down on demand

es to Bypass

from the Web," Lollar explains.

The upshot: Dealers could see where they had problems and compare their performance against their peers'. Problem was, that didn't really help them fix problems or improve performance.

Now, Lollar's group also provides dealers with various diagnostic capabilities and how-to manuals, plus dashboard and drill-down capabilities that point to specific conditions that might be contributing to performance problems.

Jim Lollar

"Before, we never tried to help dealers with how to fix the problem. The report would have a variance number with a condition code beside it, and that's all we gave them," says Lollar. "The message was 'Here — you have a problem; figure it out,' " he says. "Now, we deliver diagnostic capabilities and how-to manuals. The system also lets dealers drill down to [more detailed] sections about repairs and costs."

Lollar says the system has been an overwhelming success. Information is now delivered in 15 languages to dealers worldwide. "And only a very, very small percentage of dealers get to an audit for performance reasons," he says.

4 TRAINING BI USERS AT THE START OF THE PROJECT, THEN NEVER AGAIN.

Jefferson Regional Medical Center in Pine Bluff, Ark., provides its administrative and clinical staffers with a self-service, Web-based portal for quickly finding specific information on patients, insurance reimbursements, staff productivity, admission trends and more. Virtually all operational data from every department — from materials management to pharmaceuticals — is accessible via the portal. That's the good news.

The challenge is that "we're all looking at the same picture, but everyone sees different things," says Morie Mehyou, assistant vice president, information management and decision support at the hospital, the fourth-largest in Arkansas.

Six years ago, when Jefferson first implemented the system, Mehyou says, the medical center came up with a glossary of definitions for key terms, such as *patient*. But over time and under varying conditions, such definitions can get murky and/or users can interpret them differently.

"We have accountants, nurse managers and supply managers all seeing different things in the same data," says Mehyou. For example, an administrator viewing the patient census data might conclude that a certain medical department should operate only 11.5 hours a day. But the medical department might disagree, countering that administrators didn't take into consideration mitigating factors such as the fact that nine of its 10 patients were very sick or that one staffer left early on that particular day.

"It's a continuous education with definitions. You have to always explain the intent and purpose [of all definitions], and if there are any caveats, they have to be apparent," says Mehyou. "Every time we have a new manager, I take the time to bring them up to speed to have consistency in reports. It's a language you have to start talking to people."

Morie Mehyou

Ever-changing government, medical and financial regulations also affect BI definitions. "Every time we have a challenge, we have to come up with another way to slice data and give another explanation of what that data is all about," Mehyou notes.

5 GOING FOR THE QUICK WIN AND NOT PLANNING FOR THE LONG TERM.

The District of Columbia's Court Services and Offender Supervision Agency needed to centralize all of its mission-critical information so it could compare the performance of various departments and realign its public safety resources across the city's eight wards.

"We had different versions of the truth floating around," says Calvin Johnson, director of the agency's office of research and evaluation. "We had one type of report from finance, another from research and a third from operations, which didn't jibe well, especially because we're in the business of public safety."

Calvin Johnson

As part of the up-front requirements-gathering process, Johnson and his team asked users in different focus groups for their three most pressing needs. "We didn't make promises, but we asked, 'Where are your three biggest pains?' " he recalls.

All told, he gathered about 45 urgent requirements — many of them redundant. "When you boiled it all down, it came to five to seven things," Johnson says. His team delivered them all — fast.

"We did not follow best practices, but we developed quick and clean reports that users could access via a portal on a regular basis. We ran these jobs every day and made the information accessible. It was low-cost but big ROI," he says.

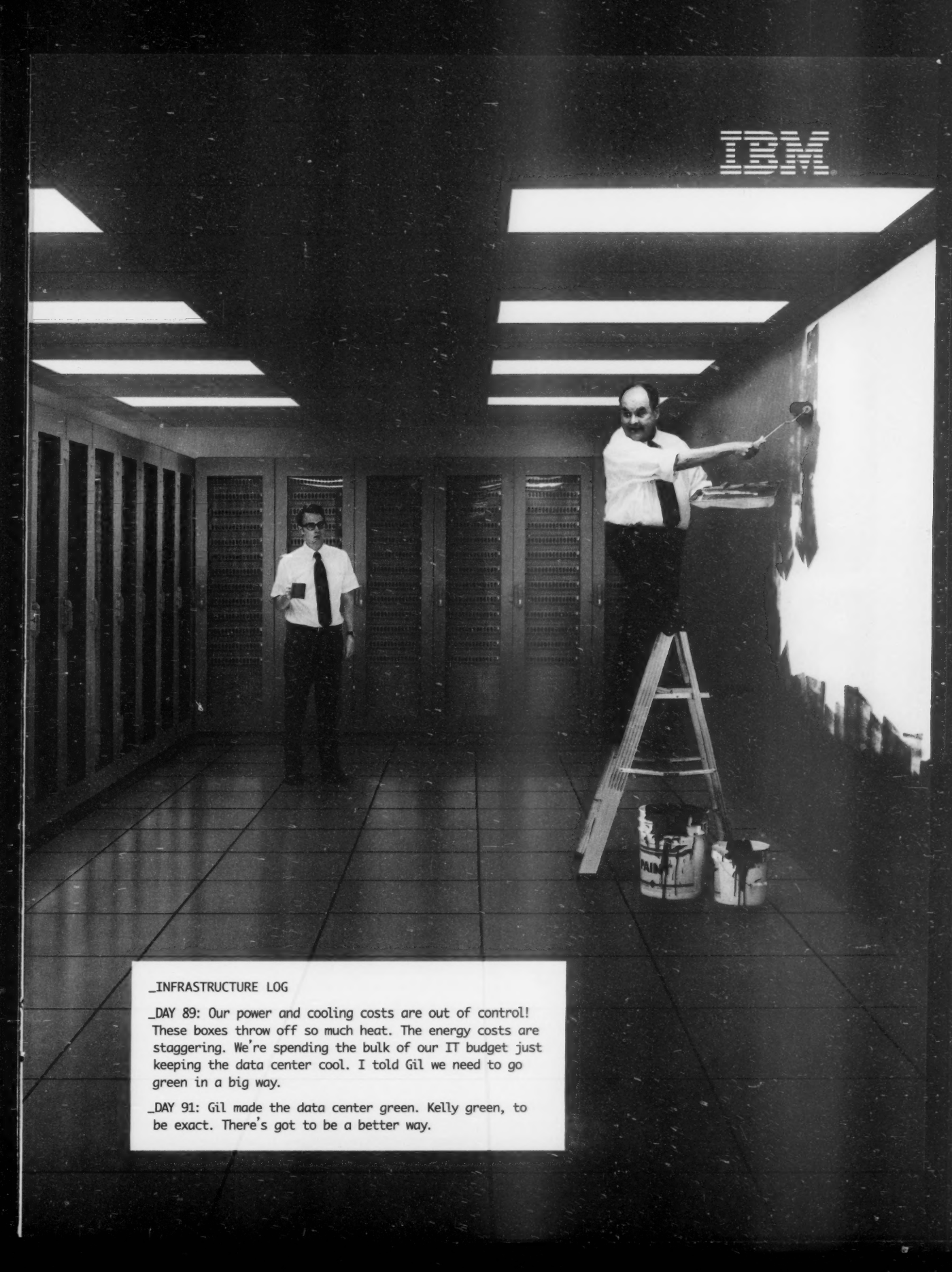
"You give them something they can use right away," Johnson advises. "People don't care about pretty. Develop something, even if it's minimal. Develop it, and let people see where you're going."

But at the same time, he says it's critical to think long term, especially in terms of how the IT infrastructure will support BI several years in the future. Most BI systems "undoubtedly will have grown to support features that were not in the original scope," Johnson says.

At the D.C. agency, for example, GIS capabilities are now part of the BI project plan.

"A lot of the data we deal with is spatial — where people live, where crimes take place," Johnson explains. Now, when a homicide takes place, a case worker can pull up a list of all previous offenders, based on the crime they've committed, in a 500-yard radius. Or when staffers are going to be in a certain area of the city, they can find the names and addresses of offenders in that area and conduct random home visits.

This is the bottom line, says Johnson: "You've got to develop an IT architecture not for where you are now, but for where you want to be five years from now." ■



_INFRASTRUCTURE LOG

_DAY 89: Our power and cooling costs are out of control! These boxes throw off so much heat. The energy costs are staggering. We're spending the bulk of our IT budget just keeping the data center cool. I told Gil we need to go green in a big way.

_DAY 91: Gil made the data center green. Kelly green, to be exact. There's got to be a better way.

MICHAEL MORGENSTERN

BI's Power Couple

The marriage of BI and text analytics promises to give deeper meaning to BI data. **By Jennifer McAdams**

THE MARRIAGE of business intelligence and text analytics is starting to have a profound impact on companies in several industries, including health care, insurance and finance, which are just waking up to the benefits of tying structured BI data to unstructured text.

Text analytics tools use linguistics, rules-based natural-language processing, specialized algorithms and other methods to impose order on unstructured text scattered throughout the enterprise. More IT executives are using text analytics software to mine disparate document-management applications, e-mail and phone systems, or even blogs and Web sites.

The goal is to breathe new life into static BI reports. By extracting facts, concepts and data relationships buried in text, text analytics software transforms this unstructured information into modeled data that can then be tied to BI databases. Hence, text analytics promises to enhance the context and meaning of BI data, which is often presented as canned reports scraped from data warehouses or major applications, such as ERP and customer relationship management (CRM) databases.

Though powerful, the combination of text analytics and BI isn't yet typical. "Most people associate business intelligence with online analytical processing [OLAP], which focuses on structured data, as far as the process and user interface are concerned," says Boris Evelson, an analyst at Forrester Research Inc. in Cambridge, Mass.

"However, to become more effective, OLAP experiences need to bring unstructured data into the analysis in a seamless way that is transparent to the user," he says.

Indeed, despite spending bundles to build sophisticated BI databases, many corporate IT officials find that a lot of vital data stays locked up as text throughout the enterprise, notes David O'Connell, an analyst at Nucleus Research Inc. in Wellesley, Mass.

"Within this data is important competitive, marketing, sales campaign and CRM trend data. However, you can only find and track these trends by automating analysis and combining it with BI," says O'Connell. "By bolting text analytics onto traditional BI applications — a process that is not terribly expensive, since little data cleansing is necessary — the value of BI efforts is extended. Eventually, companies get new ROI on existing BI investments."

ORDER, PLEASE

BlueCross BlueShield of Tennessee Inc. (BCBS) provides a good example of the benefits of extending BI through text analytics. BCBS has successfully linked the two technologies

Continued on page 44

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1. Currently available on IBM System x and IBM BladeCenter servers. Expected to be available on IBM System i and System p servers 11/07. Energy management capabilities of IBM Systems Director are not available on IBM System z. 2. Advanced Power Virtualization is optional and available at an additional charge. 3. For complete details, go to ibm.com/takebackcontrol/claim. IBM, the IBM logo, Cool Blue, POWER6, System p, Take Back Control, System x, BladeCenter, System i and System z are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. ©2007 IBM Corporation. All rights reserved.

A Personal Tale

COMBINING TEXT analytics and business intelligence made a huge difference in the life of one IT professional who used the concepts behind pairing the two technologies to save her husband's leg from amputation.

For Patricia Cerrito, professor of mathematics at the University of Louisville, the gulf between BI and text presented potentially devastating repercussions. Inflicted with diabetes and osteomyelitis, an inflammation of the bone caused by infection, Cerrito's husband faced the possibility of an amputation right below the knee.

An alternative treatment involved a particular antibiotic. But the doctors were reluctant to OK it unless Cerrito personally provided information on dosage and side effects.

"The physician was aware that we had expertise in this area, but ultimately the leg belonged to my husband," she says, adding that most physicians are amenable to postponing amputation as long as there is a degree of safety in doing so. To gather the information requested, she ultimately gleaned structured BI prescription data and combined that with anecdotal information prepared by individual physicians.

Trouble was, patient information prepared by physicians tends to be scattered in disparate document management applications and other systems. "In medicine, physicians are independent entrepreneurs. For this reason, change is slow, especially when it involves changing the perspective of disease management," says Cerrito.

Now, Cerrito says she is determined to help make available more information on alternative treatments for particular diseases by creating interfaces between structured BI databases and unstructured text.

Through the use of SAS Text Miner, "it is now possible to examine sequences of decisions by creating text strings from multiple columns of information," she says. Text Miner plows through these text strings, formatting and classifying documents after detecting relationships between pieces of text-based information. In this way, Cerrito, her husband and her students are able to delve into data housed in hospital billing systems and physician chart notes.

Cerrito brings her efforts full circle to help others. "This experience has led me to question whether patients in similar circumstances would have had their leg amputated, because they were unaware of alternatives," she says. "From my research and work, this appears to be the case."

– JENNIFER McADAMS

Continued from page 42
to hone analysis of the costs of insuring high-risk and low-risk members in four disease categories.

"By combining related structured and unstructured data, we were able to deliver new business insight, enable new forms of analysis and present actionable information to users in the form of enhanced BI," says Frank Brooks, chief data architect and senior manager of data resources and management at the Chattanooga-based insurance provider.

Fueling the BCBS system is Cognos 8 BI Version 8.2 from Ottawa, Ontario-based Cognos Inc. and two text analytics tools: Text Miner from Cary, N.C.-based SAS Institute Inc. and IBM's OmniFind Analytics Edition. Both text analytics tools are playing big roles in a BCBS proof-of-concept application.

"[That application] has demonstrated the power of transforming the meaning hidden in unstructured data with the meaning in existing structured data," says Brooks.

SAS's Text Miner manipulates data contained in several file types — PDF, ASCII, HTML and Microsoft Word — and renders text as numerical representation using Singular Value Decomposition technology. These numerical models are packaged to reside in BI clients, including Microsoft Excel and SAS's many BI offerings.

IBM's text analytics offerings mostly center on the Unstructured Information Management Architecture, a product of the company's research division. UIMA uses core algorithms to perform the language processing needed to transform unstructured text into components that can be integrated with middleware and systems like WebSphere Portal Server and Lotus Workplace that often host enterprise BI applications.

Along with insurance giants such as BCBS, financial services firms are also ripe for combined BI-text analytics applications. For instance, text analytics is applicable to areas such as risk management, according to a recent report by Forrester. The report gives an example in which an antifraud professional at a major financial institution used the two technologies to generate "watch lists" and compile legal discovery documentation that would have been impossible to gather through manual association of data sets.

Financial planning systems provider Kettley Publishing Co. in Newport Beach, Calif., has combined BI and text analytics capabilities to allow its customer base of financial planners to access the most relevant content. "BI and analytics turns 'noise' into a form that can actually support and defend decisions," says Jim Connolly, Kettley's director of development.

Kettley developed its text analytics capabilities in-house using Microsoft Windows Workflow Foundation programming model to whip text into shape — an exercise that would serve as a forerunner to stepped-up enterprise search capabilities. "The implementation went smoothly and took less than one person in one month's time to implement," says Connolly.

As software vendors scramble to add text analysis functionality to their BI portfolios, systems integrators will be the first to capitalize on corporate interest in the combined systems, says Forrester's Evelson.

"This is still very much an integration game," he says. "So in addition to investment in software, one needs to budget at least $3 to $5 on systems integration for every $1 spent on software." ■

McAdams *is a freelance writer in Vienna, Va. Contact her at JMTechWriter@aol.com.*

Cracking a Web Analytics Nut

Online retailer VistaPrint uses Web analytics to turn online visitors into paying customers.

By Heather Havenstein

VISTAPRINT LTD., an online retailer that provides graphic design services and custom-printed products, has boosted its customer conversion rate with Web analytics technology that drills down into the most minute details about the 22,000 transactions it processes daily at 18 Web sites.

Like many companies that have invested heavily in online sales, Lexington, Mass.-based VistaPrint more than a year ago found itself drowning in weblog data tracked from its online operations. Analyzing online customer behavior and how a new feature might affect that behavior is important, but the retrieval and analysis of that data was taking hours or even days using an old custom-built application, says Dan Malone, senior manager of business intelligence at VistaPrint.

"It wasn't sustainable, [and] it wasn't scalable," Malone says. "We realized that improving conversion rates by even a few percentage points can have a big impact on the bottom line."

So VistaPrint set out to find a Web analytics package that could test new user interfaces to see whether they could increase conversion rates (the percentage of online visitors who become customers), find out why visitors left the site and determine the exact point where users were dropping off.

The search first identified two vendor camps. One group offered tools that analyzed all available data, without any upfront aggregation. The other offered tools that aggregated everything upfront but required users to foresee all the queries they wanted to run, Malone says.

"If you have a question that falls outside the set of questions you aggregated the data for, you have to reprocess the entire data set," he explains.

The company finally turned to a third option, selecting the Visual Site application from Visual Sciences Inc.

Visual Site uses a sampling method, Malone says, which means VistaPrint can still query the detailed data, but "it is also fast because you're getting responses as soon as you ask a question. It queries through 1% of the data you have, and based on that . . . it gives you an answer back. It assumes the rest of the 99% [of the data] looks like that. Because the data has been randomized, that is a valid assumption."

VistaPrint, which has been using the tool for just over a year, runs it alongside the 30 to 40 new features it tests every three weeks, Malone says.

For example, the company was testing a four-page path for a user to upload data to be printed on a business card. The test showed that the new upload path had the same conversion rate as the control version, Malone says. "We were a little disappointed because we put in a lot of time to improve this flow," he adds.

When the company added Visual Site to the operation, it found that while the test version was better than the control in three out of four pages, the last page had a big drop-off rate. "We were able to tell the usability team where the problem was," Malone says.

VistaPrint also reduced the drop-offs from its sign-in page after the Visual Site tool showed that returning customers were using the new customer-registration process and getting an error notice, Malone notes.

The company fixed the problem, and "the sign-in rate improved significantly and led to higher conversions," he says.

While Malone says it is hard to measure an exact return on the investment, the company estimates that the tool paid for itself several months after installation.

VistaPrint now plans to expand its use of the tool to include analysis of which business-card templates, address labels and letterheads are most appealing to customers, he says. ■

AT A GLANCE

VistaPrint Ltd.
www.vistaprint.com
Lexington, Mass.

BUSINESS: Sells graphic design services and custom-printed products online

PROJECT: Used a Web analytics package to see which new online interfaces would turn Web visitors into customers and to find out why and where customers dropped off the site. The technology drills down into the most minute details about the 22,000 transactions the company processes daily at its 18 Web sites.

VistaPrint customers can order business cards or letterhead online.

Source: "Business Continuity Unwrapped," Continuity Central, 2006, www.continuitycentral.com/feature0358.htm. IBM, the IBM logo, System p, Take Back Control and Tivoli are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. ©2007 IBM Corporation. All rights reserved.

_INFRASTRUCTURE LOG

_DAY 82: There are so many risks out there. So many things that can happen to our business: natural disasters, spikes in traffic, mergers. How do we prepare? One in three companies don't recover from unplanned downtime.[1] Would we?

_Gil has wrapped everything in the office with bubble wrap. Everything. Just to be safe.

_DAY 83: I'm preparing with IBM Business Resilience Solutions. IBM Business Continuity Services can help us assess our risks and design a proactive plan to deal with them. IBM Tivoli gives us the visibility to diagnose and fix infrastructure problems. And the robust availability features of the IBM System p™ give us maximum uptime. The future feels so much safer now.

_No more bubble wrap. And I have to mail a package. Great.

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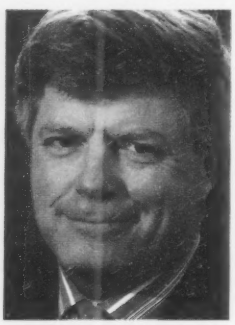
Analyze This

How analytics can help your company (and the Red Sox) win big.

It's no secret that companies such as Capital One Financial Corp. and Harrah's Entertainment Inc. have for years successfully analyzed data about their customers to gain an edge over rivals. Now that competitive analytics and business intelligence techniques are more mainstream, corporations are jockeying for specialists who have solid analytical skills, says **Thomas H. Davenport**. *He and* **Jeanne G. Harris** *teamed up to co-author* Competing on Analytics: The New Science of Winning *(Harvard Business School Press, 2007). The two authors spoke with* Computerworld's *Thomas Hoffman earlier this year.*



» Thomas H. Davenport, the president's distinguished professor in information technology and management, Babson College

» Jeanne G. Harris, executive research fellow and director of research, Accenture Institute for High Performance Business

You mention the Boston Red Sox in the book. How are they using analytics to try to gain an edge over the Yankees?

Davenport: In professional sports in general, the key analytical capability is figuring out which players to acquire in the first place. The Red Sox aren't quite as rich as the Yankees, but they are richer than the Oakland A's, who have to be really good at evaluating undervalued players. The Red Sox have figured out [that] the Oakland A's can do the initial work and then [the Sox can] hire the players if the A's can't pay them enough.

The Red Sox also apply analytics to decide what to do on the field. In 2003, the Red Sox hired this guy Bill James, who is the god of baseball statisticians. The new owners were more analytically focused than previous ownership. James developed this idea of on-base percentage and slugging percentage as a method of success instead of batting average — and the Red Sox have applied this aggressively. The A's were the pioneers.

Not all [baseball] teams are that analytical. The [Chicago] White Sox aren't that analytical. The [St. Louis] Cardinals are somewhere in the middle. The [Atlanta] Braves are historically quite intuitive.

Harris: We're seeing this across professional sports. AC Milan [a professional soccer team] has a little bit different focus, getting players who are not injury-prone. There are 200 data points they look at. There's been a transformation occurring throughout professional sports. The New England Patriots have also applied analytics successfully.

So, are the Yankees using analytics?

Davenport: There's not much evidence that they have. They haven't hired any big statisticians. The players that they have do have good numbers in the traditional sense. A guy like [Alex Rodriguez] does, but that hasn't helped his team produce. They would be incredibly powerful if they had that, too.

Let's switch gears. What led you to write this book?

Davenport: We had collaborated earlier on a project looking at how companies develop analytical capabilities. We both found it rewarding. Jeanne has been at this whole decision-support thing for some time. I had a hypothesis that was verified in our initial research that human factors might differentiate companies more than just data. I wanted to explore that more. And I was approached by SAS [Institute] and Intel, and they asked if I would look at who some of the leading analytical users were.

Harris: What's new and exciting is that instead of using BI as this point of light, companies are emerging to use it as a source of competitive differentiation.

How are some leading organizations using analytics to gain a competitive edge?

Davenport: One of the things that we say is that companies should be using analytics to support their distinctive capabilities. For Netflix, that distinctive capability is increasingly being able to predict what DVDs their customers will like. They have developed an audience preference algorithm called Cinematch, in which they try to predict whether a customer will enjoy a movie, based on how much they liked or disliked other movies. They're willing to pay $1 million to anyone who can improve the algorithm by 10% under a contest they're having.

Harris: UPS just announced that they're totally redoing their [ground delivery] routes to reduce their number of left turns their trucks make to improve productivity and reduce gas consumption.

Can a public sector agency use analytics to "compete" either against public or private sector "rivals"?

Davenport: New York City was one of the earlier adopters, with the CompStat [comparative statistics] program, one of the reasons why Rudy Giuliani can say

they reduced crime so much when he was mayor.

Harris: Very early in my career, I worked in the public sector, and we used analytics at the IRS for fraud detection. Some government agencies have some very sophisticated capabilities.

We often hear about the need for IT organizations to scrub their dirty data. How much of a problem is data integrity?

Harris: Data integrity is absolutely a huge issue if you don't have it. The integrity of data in the average corporation is getting better overall.

The reason some of these executive dashboards failed is that they tried to put a pretty face on some pretty bad data. But it's a continuing challenge for organizations. Data cleansing isn't very fun. But [leading] companies pay a lot of attention to ensuring they have the cleanest, most accurate data they can have.

Speaking of dashboards, some CIOs complain that CEOs and other executives have demanded that they get these tools to view and act upon daily or weekly operations data – but then either ignore the dashboards or use them lightly. What's the disconnect here?

Davenport: We make the distinction between reporting activities and analytical activities. Dashboards are purely reporting-oriented. There's no model that describes which nonfinancial factors drive financial performance and so forth.

One of the things we advocate to people who drive reporting are, what are the underlying analytical models that make those dashboards more meaningful. Hilton Hotels determined that for every 5% increase in customer loyalty this year, they generated a 1% increase in revenue the following year. Making the information meaningful can help generate more interest in these dashboards.

> **"The real issue is that there's going to be an analytical talent race. There already is, to some extent.**
>
> **THOMAS H. DAVENPORT**

You devote a chapter of the book to analytical people. What are some of the successful characteristics of CEOs who "get" this?

Davenport: In the really analytical companies, CEOs are really driving things. They need to be really passionate about this topic and do more testing and make decisions based on analytics and facts as opposed to intuition. If you're the head of marketing or HR or supply chain, it's a question of asking, "Should my function be using analytics in a more aggressive way? What's the way that we could build some distinctive capabilities and gain competitive advantage using analytics?"

What are some improvements that CEOs can make to better leverage analytics?

Harris: One of the things we found very consistently [among leading companies] is instilling a fact-based culture in your organization. You don't want people to be making decisions by the seat of their pants; you want [those decisions] to be based on facts. That's one thing an executive can do: foster a climate of fact-based decision-making.

What does the future of analytical competition hold?

Davenport: We tried to break that issue up into several different categories. There are the strategic drivers, human drivers and technological drivers. From the strategic side, more and more companies will start to view this as a critical capability that they'll need to have and what the long-term competition looks like with respect to analytics.

The airline industry pioneered analytics with things like yield management and crew scheduling, but they coasted on their reputations a bit and suffered.

Capital One is competing in a credit card market where lots of banks have adopted their approaches. So they have to constantly be thinking about how they can introduce analytics to [other] areas of banking, or other innovative approaches they can take.

> **"You don't want people to be making decisions by the seat of their pants; you want [those decisions] to be based on facts.**
>
> **JEANNE G. HARRIS**

The real issue is that there's going to be an analytical talent race. There already is, to some extent. One software company told us it can take up to a year to find someone who understands the nature of their business and has strong analytical capabilities.

It will be interesting to see if more of this work goes offshore. There are lots of smart people in India and China, for example. But there are trust issues with having someone handling your data who's located thousands of miles away.

Harris: Analytics will also be used to differentiate products and offerings, such as Progressive Insurance offering customers the opportunity to evaluate competitors' quotes. There are golf clubs under development that can analyze your swing and provide you biometric feedback.

What might IT managers learn from the book?

Davenport: I think they might have a much greater sense of what the business value of BI might be. The discussion has often been around things like, "Should you have a data warehouse, or a series of data marts?" IT had a tough time getting senior executives motivated to pay for and move forward on this, so this should be a nice way for IT people to engage senior management on the business value of analytics.

Harris: It's actually changing business models. It's a whole way of changing the dialogue with your senior management team. ■

TO READ AN EXCERPT FROM THE BOOK, TURN TO PAGE 52.

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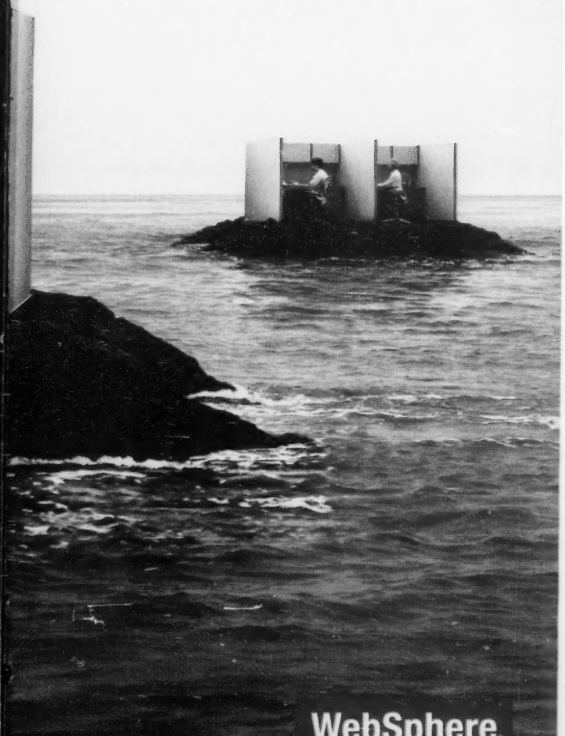

_INFRASTRUCTURE LOG

_DAY 84: Feeling really disconnected. We're not getting the most out of our existing assets. Service and application integration is a nightmare. Our connections are restrictive. We've got to stop working on these islands.

_Please rescue me from this lack of connectivity.

_DAY 87: I've taken back control with IBM WebSphere solutions. Now we can service-enable and connect our existing assets for mission-critical goals. We can reuse existing applications and save money by eliminating redundant systems. Now we're ready for any SOA integration project.

_Plus, no more jellyfish stings.

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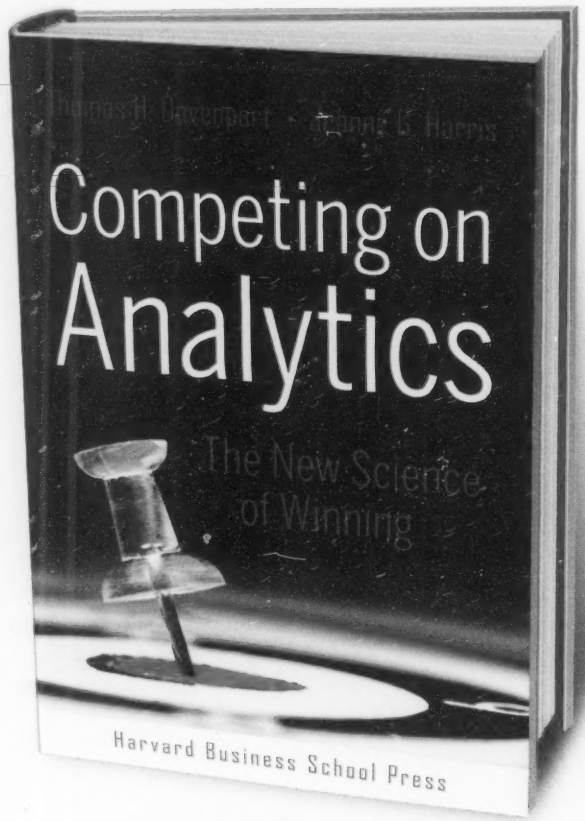
Competing On Analytics

The smart use of business intelligence tools and algorithms can help your company leapfrog its rivals.



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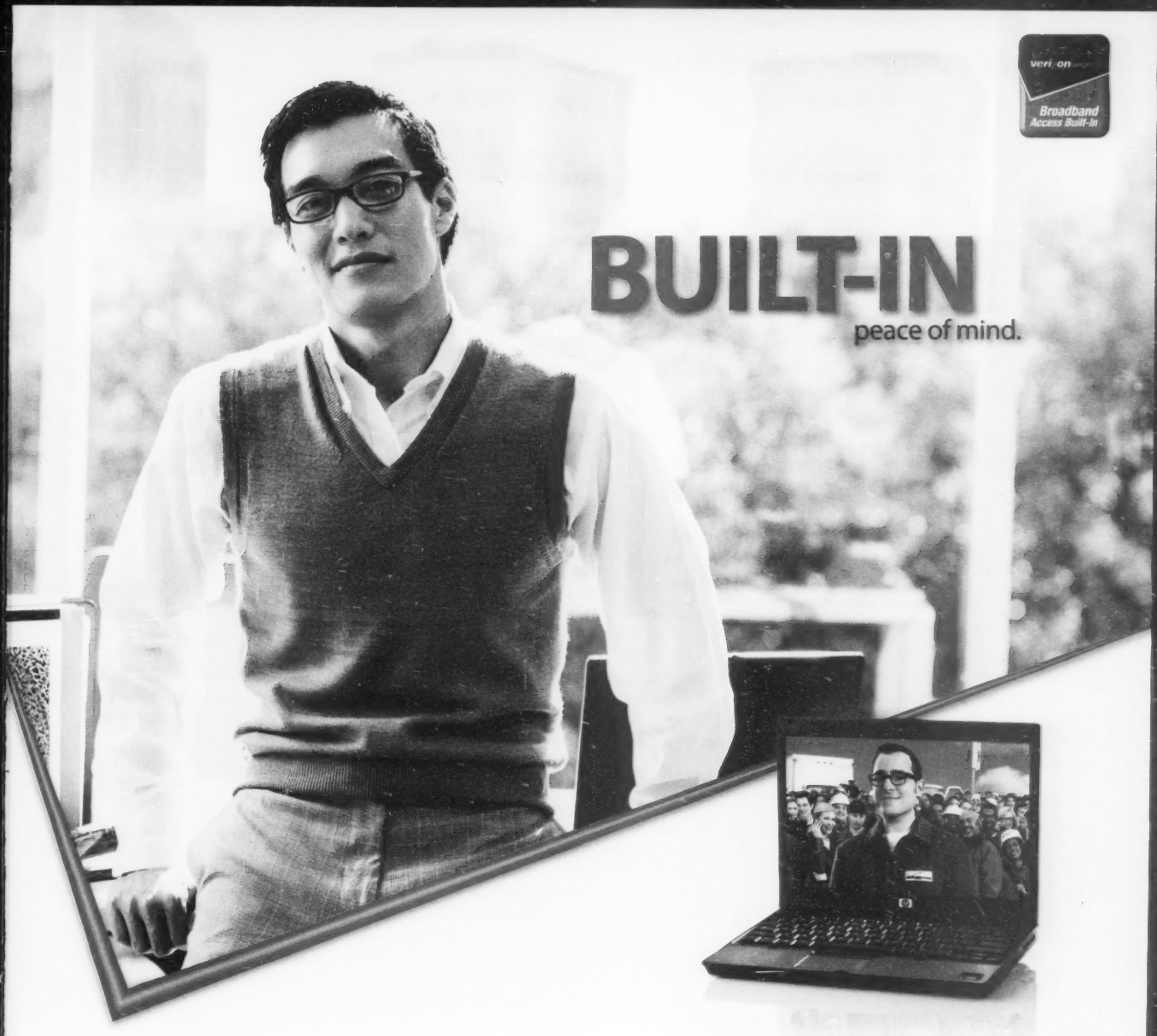
In *Competing on Analytics*, Thomas Davenport and Jeanne Harris assert that competitive advantage can come from sophisticated exploitation of business intelligence and predictive analytics. It's already happening at companies such as Netflix Inc., Amazon.com Inc., Harrah's Entertainment Inc. and Capital One Financial Corp. Online video rental company Netflix, for example, has used its algorithm-driven movie recommendation engine to blossom into a $1 billion business that competes with brick-and-mortar operations like Blockbuster Inc.

TODAY, most large organizations have some sort of analytical applications in place and some business intelligence tools installed. But they're typically marginal to the success of the business and are managed at the departmental level. An insurance company, for example, may have some analytical tools in the actuarial department, where pricing for policies is determined. A manufacturing company may use such tools for quality management. Marketing may have some capabilities for lifetime value analysis of customers. However valuable these activities are, they're invisible to senior executives, customers and shareholders — and they can't be said to drive the company's competitive strategy.

Our focus is on companies that have elevated data management, quantitative analysis and fact-based decision-making to a high art. Rather than being in the backroom, analytics in these companies are found in the annual report.

Organizations that want to be competitive must have some attribute at which they are better than anyone else in their industry — a distinctive capability. Maybe you strive to make money by being better at identifying profitable and loyal customers than your competition, and charge them the optimal price. If so, analytics are probably the answer to being the best at it. Perhaps you sell commodity products and need to have the lowest

Continued on page 54



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possible level of inventory while keeping shelves stocked for customers. If so, analytics are often the key to supply chain optimization.

Analytical competitors are organizations that have selected one or a few distinctive capabilities on which to base their strategies and then have applied extensive quantitative analysis and fact-based decision-making to support the selected capabilities. Whatever the capabilities are, analytics can propel them to a higher level. Capital One, for example, calls its approach an "information-based strategy." Harrah's distinctive capabilities are customer loyalty and service, and it has certainly optimized them with its analytics-driven strategy.

■ The CEO will have the primary responsibility for changing the culture and the analytical behaviors of employees. But CIOs can help in this regard, too.

Skeptics may scoff that analytics can't provide sustainable competitive advantage, because any single insight or analysis eventually can be adopted by competitors. And it's true that any individual insight may provide only transient benefits. Yield management provided a big boost to American Airlines for a time, for example, but that process is now just a cost of doing business in the airline industry.

Organizations can take several approaches to gain a competitive advantage with data. Some can collect unique data over time about their customers and prospects that competitors can't match. Others can organize, standardize and manipulate data that is available to others in a unique fashion. Still others might develop a proprietary algorithm that leads to better, more insightful analyses upon which to make decisions. And some differentiate themselves by embedding analytics into a distinctive business process.

Regardless of approach, companies that successfully compete on analytics have analytical capabilities that are:

■ **Hard to duplicate.** It is one thing to duplicate another company's IT applications or its products; it's quite another to replicate processes and culture.

■ **Unique.** In the gaming industry, Harrah's uses analytics to encourage customers to play in a variety of its locations scattered around the U.S., but that wouldn't be the right strategy for a single casino, such as Foxwoods Resort Casino in Connecticut.

■ **Adaptable to many situations.** Sprint Nextel Corp., for example, easily adapted its analytical expertise in customer marketing to human capital processes such as employee acquisition and retention.

■ **Better than the competition.** Some organizations are just better at exploiting information than others. While every financial services firm has access to consumer credit information, Capital One has analytical skills that enable it to outperform the market by making smarter decisions about potentially risky credit customers.

■ **Renewable.** Any competitive advantage needs to be a moving target, with continued improvement and reinvestment. By the time competitors notice that insurer The Progressive Corp. has targeted a new segment — such as older motorcycle drivers — it has captured the market and moved on to the next opportunity.

Four Pillars Of Analytical Competition

- **Distinctive capability:** The organization views analytics as something significant that sets it apart from competitors.
- **Enterprisewide approach:** Analytics are managed and made widely available across the whole organization, not just to one department or a hodgepodge of employees.
- **Senior management commitment:** Changes in culture, process, behavior and skills – and a passion for fact-based decision-making – must be led by the CEO.
- **Large-scale ambition:** Analytical competitors bet their future business success on analytics-based strategies.

Five Stages Of Analytic Competition

1 ANALYTICALLY IMPAIRED: The organization is "flying blind" and reactive. It's plagued by missing or poor-quality data, multiple definitions of data and poorly integrated systems.

2 LOCALIZED ANALYTICS: Analytic efforts are isolated, opportunistic and function-specific. The organization collects transaction data efficiently but often lacks the right data for better decision-making.

3 ANALYTICAL ASPIRATIONS: Executives make a commitment to broader use of analytics. The organization has a proliferation of business intelligence tools and data marts, but most data remains unintegrated, nonstandardized and inaccessible.

4 ANALYTICAL COMPANIES: The organization begins to develop an enterprisewide analytics capability, which is viewed as a corporate priority. The organization has high-quality data, an enterprisewide analytical plan, IT processes and governance principles, and some embedded or automated analytics.

5 ANALYTICAL COMPETITORS: The organization is routinely reaping big benefits from its enterprisewide analytics capability and focuses on making that business advantage renewable. The organization has a full-fledged analytic architecture that is enterprisewide, fully automated and integrated into processes.

ROLE OF THE CIO

The CEO will have the primary responsibility for changing the culture and the analytical behaviors of employees. But CIOs can help in this regard, too. For example, Irving Tyler, formerly CIO of Quaker Chemical Corp. (now at IMS Health Inc.), provided the results of data analysis and reporting through e-mail alerts to Quaker employees. He believed that the more information was delivered to users, the more it began to shape their ability to solve problems and make decisions based on information rather than intuition.

The CIO may also provide a home and a reporting relationship for specialized analytical experts. Analytical groups report to the CIO at The Procter & Gamble Co., trucking company Schneider National Inc. and Marriott International Inc. Procter & Gamble recently consolidated various analytical organizations into one group that reports to the CIO; in fact, the IT function has been renamed "information and decision solutions."

Of course, the most traditional CIO approach to analytics is through technology. This is certainly necessary, but not sufficient. CIOs who want to play an even more valuable analytical role will focus on the "I" in their titles — the information.

Analytical competition is all about information — do we have the right information, is it truly reflective of our performance, and how do we get people to make decisions based on information? These issues are more complex than buying and managing the right technology, but organizations wishing to compete on analytics will need to master them. It's a pretty safe bet that information orientation is highly correlated with analytical success. ■

TO READ AN INTERVIEW WITH THE AUTHORS, TURN TO PAGE 48.

11 Signs That You're Doing BI Right

How will you know you've arrived as an analytical powerhouse? The authors of *Competing on Analytics* say the following 11 characteristics are signs that you've reached business intelligence nirvana.

- **Analysts have direct, nearly instantaneous access to data.**
- **Information workers spend their time analyzing data and understanding its implications rather than collecting and formatting data.**
- **Managers focus on improving processes and business performance, not culling data from laptops, reports and transaction systems.**
- **Managers never argue over whose numbers are accurate.**
- **Data is managed from an enterprise-wide perspective throughout its life cycle, from its initial creation to archiving or destruction.**
- **A hypothesis can be quickly analyzed and tested without a lot of manual behind-the-scenes preparation beforehand.**
- **Both the supply and demand sides of the business rely on forecasts that are aligned and have been developed using a consistent set of data.**
- **High-volume, mission-critical decision-making processes are highly automated and integrated.**
- **Data is routinely and automatically shared between the company and its customers and suppliers.**
- **Reports and analyses seamlessly integrate and synthesize information from many sources.**
- **Rather than having data warehouse or business intelligence initiatives, companies manage data as a strategic corporate resource in all business initiatives.**

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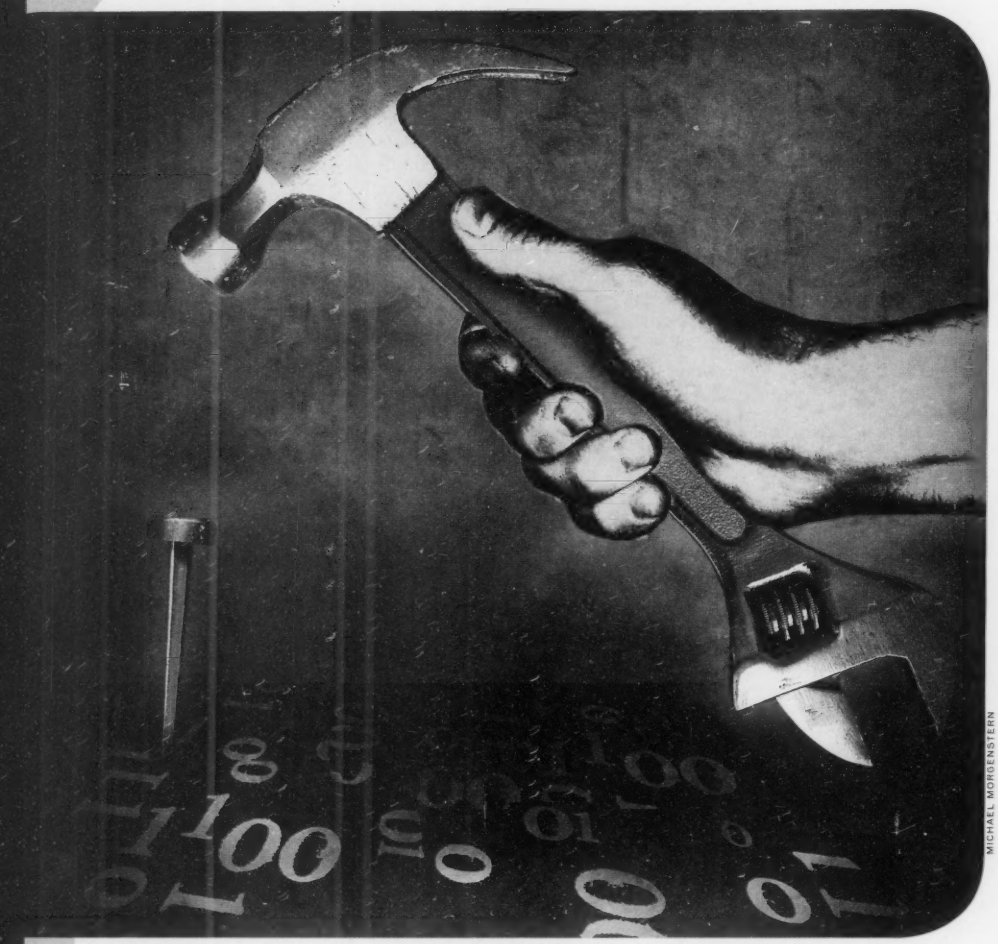

MICHAEL MORGENSTERN

The Right BI Tool for The Right User

When too many users have too many tools, the result is faulty BI. Here's how to restore order. **By Mary Brandel**

NEARLY ANYONE involved in business intelligence technology can recall a horror story that involved giving users too many freedoms with BI tools. Indeed, of any technology that IT is involved with, BI might be the most difficult to deploy when it comes to putting the right tools in the right hands so that the right data is delivered at just the right time.

For instance, three years ago, San Antonio-based Valero Energy Corp. had an array of BI tools because it had gone through multiple mergers and acquisitions. The options included systems from Cognos Inc. and Hyperion Solutions Corp., as well as Crystal Reports, which is now owned by Business Objects SA. A pitfall, says Kirk Hewitt, director of reporting and financial systems at the $82 billion refiner, was that users were running reports off different versions of the data.

"Somebody might take

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data from the data warehouse, load it onto a Crystal Reports server and do their reporting off the server," he says. "But they might not do an update every morning, so all the data in that report was not consistent with what was in the warehouse the previous night."

Valero took measures to solve that problem in 2004, when it began a two-year project to consolidate its BI architecture. That effort included standardizing on SAP Business Information Warehouse (BW), SAP ERP software and an Oracle data warehouse. Valero also moved all report- and query-building functions into the IT department and chose one front-end tool — Information Builders Inc.'s WebFocus — as well as the online analytical processing (OLAP) capability in SAP BW.

Now, although users can slice and dice and drill down into data using WebFocus, they're using reports built by the IT group and comparing data that has been qualified and structured by IT. "All reporting originates from information services; we no longer have reporting pockets in the business," Hewitt says. "That ensures that we're aware of what the requirements are, that the requests make sense within our infrastructure and that the data is available on a timely and accurate basis."

SOME OF THE PEOPLE, SOME OF THE TIME

Valero isn't the only company that's moving from what might be considered the Wild West era of BI to a more controlled and sophisticated approach. As companies realize the potential of BI implementations, they're also learning how many things can go wrong if they don't standardize tools, work with users on how they want their business intelligence delivered, coordinate with them on creating queries and reports, and ensure that everyone is working off the same set of correctly structured data.

At Del Monte Foods Co., before the company standardized on one set of BI tools, users were free to design their own reports with one of several query and reporting tools, says Andy Wojewodka, director of business systems and decision support. "I found different departments sending performance results to management on fill rate, but each used a different set of business rules and filtering," he says.

For instance, there was no agreement on which types of orders or businesses should be included or excluded. "Consequently, all reports were 'correct,' but their definitions of 'fill rate' were completely different," Wojewodka says.

"Too much flexibility and ad hoc capabilities in the hands of the wrong person can result in islands of autonomy, homegrown subsystem processes and the proliferation of multiple versions of the truth," Wojewodka concludes. Now, BI analysts in Del Monte's IT group work with end users and developers to determine how best to present information in a meaningful form for business owners' consumption.

Edward Smith, chief information director at Utz Quality Foods Inc., a snack foods manufacturer in Hanover, Pa., had a similar experience. "We've gone down the road of letting users build their own queries, and it didn't work too well,"

Continued on page 60

A City Connects With Its Residents

Albuquerque lets residents tap into city reports.

By Heather Havenstein

WHILE THE TREND at many companies is to spread business intelligence tools to the far-flung reaches of the enterprise, the municipal leaders of Albuquerque are focused on making BI reports available to the far-flung reaches of their city.

Albuquerque is running BI software from Cognos Inc. outside its firewall to allow its citizens to run reports about their water bills and usage, crime statistics in specific neighborhoods, and election campaign contributions. In addition, citizens who have applied for permits to make changes to their homes can use the BI software to track where their requests stand in the bureaucratic process and which committees are reviewing them, notes Chris Framel, IT division manager in the city's water utility authority.

Also, vendors doing business with the city can check the status of invoices they have submitted and access historical invoice statistics.

While some of the applications – such as the crime reports – have been available for several years, others are new. For example, the reports that allow citizens to dig into the campaign contributions for local elections went live within the past month, Framel says.

Wayne Eckerson, director of research at The Data Warehousing Institute, says he has heard of a few federal agencies providing external access to BI reporting and analysis tools. "[This project] really provides tremendous value, cementing relationships with customers and suppliers – kind of the end state of BI," he says.

Framel says he wants to add BI reports that citizens can use to track the status of requests made through the city's "311" system, where they log requests for services such as having a pothole filled.

Key to the success of the BI project, Framel says, has been the city's focus on adding prompts to the applications to ensure that citizens who may not be familiar with using a sophisticated data analysis tool can access the information they need.

"That is the biggest thing – making it as easy as possible for them to understand what is sometimes a very complicated database," he says. "You have to get simple reports out there that can serve most of the people."

Before new reports can be accessed outside the firewall, the reports are made available to internal users on the city's intranet for testing, Framel says. That feedback and comments from citizens are used to tweak the prompts and other usability features, he adds.

Albuquerque hasn't yet had to implement security mechanisms to protect the data, because it is running the Cognos software outside the firewall and all the data is categorized as public information. However, Framel says he would also like to provide access inside the city's firewall to avoid having to copy data from multiple databases daily to the databases outside the firewall. ■

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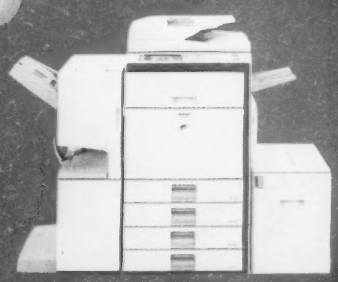

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Continued from page 58
he says. Inefficient queries were bringing the company's main business systems platform, an IBM iSeries server, to a screeching halt.

"They're savvy users, but they didn't understand data structures, and they don't know the data well enough to get the right answer," Smith says. Since 2002, he says, the IT group has taken over designing queries and reports using WebFocus, so users can slice and dice data safely, using efficient queries and correct data structures.

Part of the problem, says Bill Hostmann, an analyst at Gartner Inc., is that the reports and dashboards that get delivered to users are just the tip of the iceberg, and what's underneath — the data integration, qualification, analysis and formatting — is often not adequately funded. "Most people don't appreciate how hard it is to get data in an accessible, controlled, qualified form," he says. "Those are important and difficult pieces of the puzzle."

KNOW YOUR AUDIENCE

Reining in report- and query-building is just the beginning of the job, however. Getting the right BI tools into the right hands also requires IT to really get to know the user population and all the different needs to be served.

At Del Monte, some managers prefer performance indicators to be delivered by hand at regularly scheduled meetings with face-to-face dialogue, while other users want the freedom to keep a pulse on what's going on, Wojewodka says. "I used to have the misconception that by supplying interactive analytics and reporting and making it intuitive in nature, that it would be embraced by all," he says. "But that isn't the case."

That's why BI analysts not only need to focus on the metrics, reports and analytics, but also need to devote time to understanding the process within a given role, Wojewodka says. This entails spending time with users and understanding the key drivers for their roles. "Delivery should be tailored to the user's area of responsibility in a format that's actionable for him or her," he says.

That's exactly how Cindi Howson spends a lot of time: helping companies match tools to individual user segments. "Many users want to be empowered and have faster response time to their questions, but they don't want to become experts in sophisticated tools," says Howson, founder of BI system evaluation site BIScorecard.com and author of *Successful Business Intelligence: Secrets to Making BI a Killer App* (McGraw-Hill Osborne Media, 2007).

So while IT report developers need tools such as Microsoft Reporting Services and Crystal Reports, business power users would get more benefit from business query tools, she says. Sophisticated Excel users might want BI delivered in an Excel interface, while casual users might want portal-based BI or data delivered via e-mail or in interactive reports.

Higher up in the organization, executives and other managers most likely want a BI dashboard or scorecard. "The information has to be relevant and personalized

The bulletproof vest of the IT action hero.

to the person accessing it," Howson says.

At Valero, some users want their BI delivered in PDF files, while those who want to manipulate the data need Excel spreadsheets, Hewitt says. Still others want reports to be accessible through a Web portal or delivered via e-mail.

"In IS, we understand what the problems and issues are because, in many cases, we came from the business," Hewitt says. For instance, most of the service managers who collect reporting requirements originally worked on the business side of Valero.

WE HAVE THE DATA, NOW WHAT?

Still another challenge is ensuring that people know what to do with the data once they can access it. "Don't assume, 'If we build it, they will come,' " says Wojewodka. "People need to understand how to utilize the information."

"People might have access to data, but they still don't act on it," Howson says. "Companies need to get away from gut-feel decision-making and foster a culture that supports 'What is the data telling me?' versus 'What is my bias telling me?' "

Utz has successfully established a data-driven culture. Sales managers, for instance, are highly aware of current sales in comparison with same-week, year-ago sales — a key retail metric. So when a sales manager queries the data and sees that regional sales are down 10%, he can quickly find out why, Smith says.

"It generates a whole host of questions and gets people to react — maybe a route salesperson was out sick, but why didn't someone pick up that route?" he says. "They're accustomed to looking at the data every day, so we can react to business failures and fix them."

But whether you're transitioning to a data-driven culture or moving away from chaotic and uncontrolled query- and report-building, you can't overlook the difficulty of change management, Hewitt says. At Valero, it couldn't have happened without the support of top executives like the comptroller and the CIO.

"They really drove the change management of the project, getting us the support we needed so that people would participate," Hewitt says. "Obviously, a lot of end users were affected, and not everyone wants to change."

Hewitt also made sure that end users were involved with the final selection of the BI tool. "They got to try it out and asked a lot of questions: 'Can you get it in Excel? Deliver it through e-mail? Go to the portal? Do OLAP?' Everyone had different requirements," he says.

Making the commitment in time, money and change management necessary to get reporting right is one of the biggest problems in BI today, according to Hewitt. But it's worth it, he says. At Valero, the change has resulted in users being more confident in what the tools are telling them. "By having a centralized and consistent data source," Hewitt says, "we're able to provide more people with access to the tools." ■

Brandel *is a* Computerworld *contributing writer. Contact her at marybrandel@verizon.net.*

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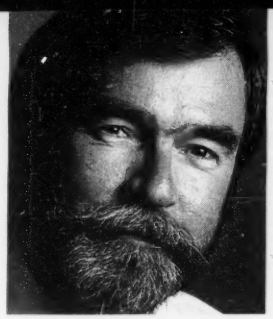
Mark Hall

BI Is the Business



PATRICK BYRNE has biked across the U.S. four times. On a recent journey, he pedaled a recumbent bicycle. It's better than a road bike, he says, because "unlike a road bike, where your head is down and you're looking eight feet in front of you, you're sitting up on a recumbent, and you can see everything."

Byrne, CEO of Overstock.com, a Salt Lake City-based online discount retailer of brand-name goods, is equally enthusiastic about his business intelligence system, which gives him a broad, up-to-the-minute vista of his operations. He claims that BI lets him view his entire business at a glance so he can make both long-range strategic and immediate tactical decisions that are grounded in solid data.

Savvy CIOs know that their bosses thrive on up-to-the-minute, data-driven insights into the company's condition, which is why BI projects always rank high on our readers' lists of priorities. In 2006, IT leaders placed BI third on *Computerworld*'s list of things to do, and in our January 2007 Forecast issue, data warehouses ranked in the top four of "big-bang projects" for CIOs — even those with tight budgets.

Byrne says the data warehouse and analytic software from Teradata, a division of NCR, has transformed his business from one where managers received reports week to week to one where "we push intelligence out to the front lines day to day, hour to hour." He also brags that the company is "on the brink of a system that can get intelligence out second to second."

But Overstock.com isn't overloading its workers with esoteric information, Byrne argues. The information has pragmatic, bottom-line implications. For example, he credits the Teradata software with helping to reduce inventory levels to $16 million from $80 million without affecting sales, giving a huge boost to cash flow.

■ When costs get spread around evenly, like peanut butter, that's bad business.

It has also improved business processes because the information is granular and better understood. Without it, Byrne says, "costs get spread around like peanut butter and evenly allocated" — and that's bad business.

For example, before Overstock.com's BI tools were in place, United Parcel Service's oversize-package charges were equally distributed across all shipments. Now, the shipping department knows exactly which products will incur those extra costs and can either apply them to a specific shipment or adjust the packaging to achieve lower mailing rates.

With BI, Byrne says, the company "is flushing all those extra costs out of the system."

The success of BI has also changed the way Overstock.com views new hires. "People need to be able to work with data," he says.

Numbers drive the company now. As Byrne puts it, "the math team" that works with the Teradata analytic software "is our frontal cortex."

But maybe the most important change is the way BI has helped raise the company's value in customers' eyes. According to the most recent annual National Retail Federation/American Express Customer Service Survey, Overstock.com was ranked No. 4 in a poll of 8,000 consumers who were asked, "Which retailer delivers the best customer service?"

Byrne attributes that stellar satisfaction rating to the business intelligence applications and how "they transformed our business processes."

He pities any retailer that's not knee-deep in business intelligence. "If they don't use it, they're in the buggy-whip business," he cracks.

In fact, when asked whether he considers Overstock.com a retail operation or a tech company, he replies, "Neither. We're a BI company." ■

Mark Hall *is a* Computerworld *editor at large. Contact him at mark_hall@computerworld.com.*

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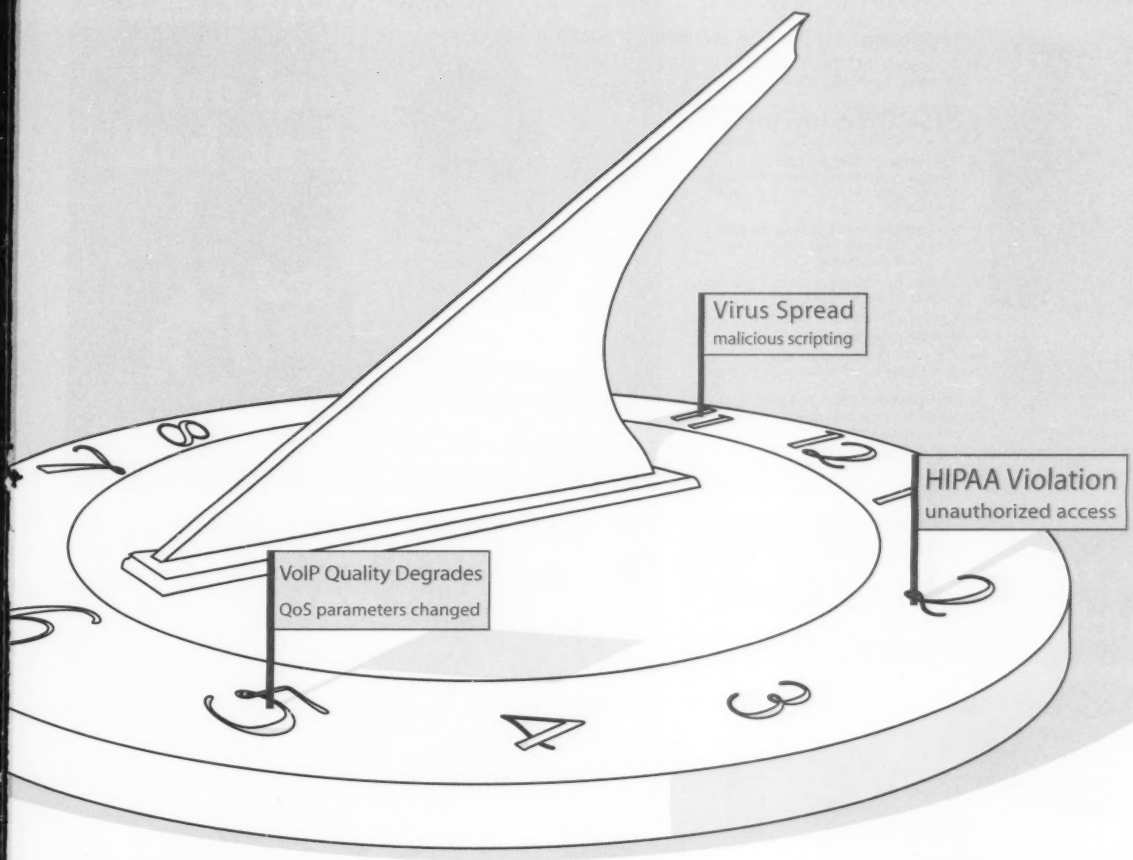

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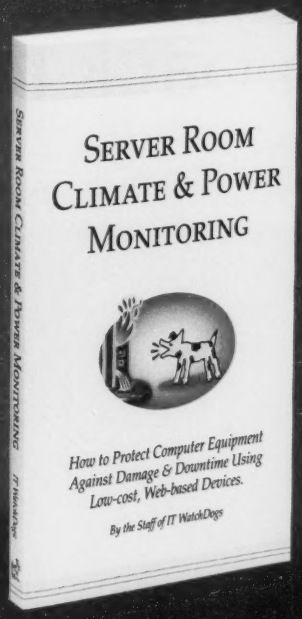
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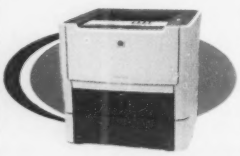

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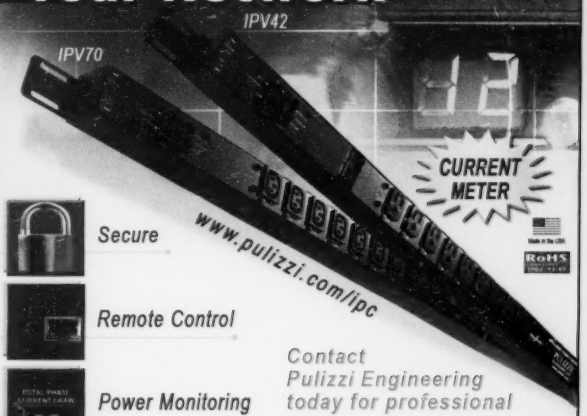

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Congratulations Awards Recipients!

Infrastructure Management World proudly announced the results of the "Best Practices in Infrastructure Management" Awards Program. This program honors IT users "Best Practice" case studies selected from a field of qualified finalists.

Honoree Award Recipients in each of the following categories were recognized during the awards ceremony at Infrastructure Management World in Scottsdale, Arizona on September 11th:

Data Center Management, IT Operations & Business Continuity

EchoStar Communications, Colorado

Finalists: *Gmarket Inc., Korea*
Heidelberger Druckmaschinen AG, Germany
Loyola Marymount University, California
Wachovia Corporate Investment Bank, North Carolina

Network Management

Case Western Reserve University, Ohio

Finalists: *Accenture, Ltd., Illinois*
National Guard Bureau J6, Virginia
Royal Bank of Scotland Group (RBSG), Scotland
Syracuse City Schools and Syracuse Police Department, New York

Security, Compliance and Risk Management

Alliance & Leicester plc, United Kingdom

Finalists: *Accor North America, Texas*
Blue Cross and Blue Shield of Kansas City, Montana
Sinclair Community College, Ohio
Zions Bank, Utah

Servers and Virtualization

Credit Suisse, New York

Finalists: *Maricopa County Community College District (MCCCD), Arizona*
North Carolina State University, North Carolina
Praetorian Financial Group, New York
Wachovia Corporate Investment Bank, North Carolina

Storage and ILM

Baylor College of Medicine - Human Genome Sequencing Center, Texas
Six Flags, New York

Finalists: *FirstHealth of the Carolinas, Inc., North Carolina*
Midwest Independent Transmission System Operator, Indiana
The Halifax Bank of Scotland (HBOS), Scotland

Career Watch

What It's All About

BY CHARLIE DUCZAKOWSKI

How early can an IT project start to fail? Very early. In fact, poor requirements definitions cause about 70% of IT project failures.

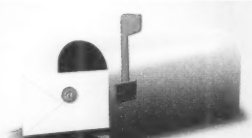
So, a good requirements-gatherer will be associated with a lot of project successes. That can only enhance your career.

To improve your requirements skills, you have to understand the difference between the "what" and the "how." The "what" is the thing that the client is trying to accomplish. The "how" is the design used to get there. Quite often, the problem is that the requirements gatherer stops listening to the "what" and locks in on the "how" that he's already comfortable with.

Of course, clients don't always speak in "what" language. They often express what they want in "how" terms – asking for something they've just seen in an advertisement, for instance, or requesting another column on a report. It's up to the gatherer, then, to pry under the surface to find out what data view they're really after.

Imagine someone who needs to get over a body of water and brings this problem to a bridge designer. The bridge designer's solution is to design a bridge, right? Other options – tunnels, submarines, balloons or dirigibles – exist, but not in the mind of a bridge designer. But the client's best interests are served by an unbiased third party who knows how to unlock the client's real needs and expectations. The goal is to figure out what the client needs from the system, not how he wants it to be built. Leave the "how" to the designers, and consider your job to be getting to the "what."

Duczakowski *is a senior consultant at Ouellette & Associates Consulting Inc. in Bedford, N.H. He is also a co-author of the book* The IT Professional of the Future, *due out this fall.*



YOUR NEXT JOB COULD BE IN YOUR IN-BOX

Computerworld.com columnist Mike Elgan likes to take a set-it-and-forget-it approach to information retrieval. Writing in the June 14 edition of *Datamation*, he suggests it's the best way to look for a new job as well. He offers tips on getting job postings via e-mail, which allows you to see what's out there ahead of all the people who still go to the trouble of visiting sites themselves to search for suitable positions. His other tips: Get appropriate RSS feeds, post your résumé online, join a professional networking site like LinkedIn, and send regular e-mails to colleagues who might be able to tip you off to good opportunities.

PAGE COMPILED BY JAMIE ECKLE.

■ ASK A PREMIER 100 IT LEADER

Patrick Bennett

The executive director of business applications at **Comcast Entertainment Group** in Los Angeles answers readers' questions about education and career paths.

I will be completing my degree in computer science soon. I am choosing among a few technical courses to satisfy the requirements but wonder whether I should substitute one or two business classes instead. If you are considering developing software applications for use in business or starting your career with a consulting firm, you will definitely benefit from business electives. Taking classes outside the computer science curriculum is a good way to explore other disciplines as well as enhance your qualifications when you enter the job market. You will be viewed by prospective employers as a more rounded candidate than the undergraduate who narrowly focused on technology. I would recommend starting with a class in marketing, since it integrates all the functions of business, then introductory finance for an understanding of corporations and the financial rewards and risks of business.

I am a project manager with 10 years of experience. I have a master's in computer science and an executive MBA from a top school, and I hold certifications in project management and security. What should my next step be? That is a question only you can answer. Based on your diverse technology, business and project management experience, the possibilities for your next step are wide open. What gets you out of bed in the morning? What excites you – makes you truly passionate? Commit yourself fully to that. You already have all the education and skills you need. The potential is limited only by your imagination and daring.

What options does an unemployed mainframe programmer/analyst with 30 years of experience have at a time of rampant outsourcing? As a former mainframe programmer/analyst myself (Cobol on Burroughs/Unisys), I chose project management as a path of change. Eventually, I headed up client/server projects, ERP implementations and, more recently, one of the world's largest entertainment Web sites (*www.eonline.com*). The fact that you have committed 30 years to one technology or that outsourcing has grown more prevalent since we coded our first line of Cobol or RPG is not a limiting factor for someone like you who is committed to continuously learning and growing. Find a new technology or desired role in your company or industry, gain the skills and knowledge needed for that job, then market yourself so you are well positioned for the next opportunity. Promote your years of experience, dedication and proven track record.

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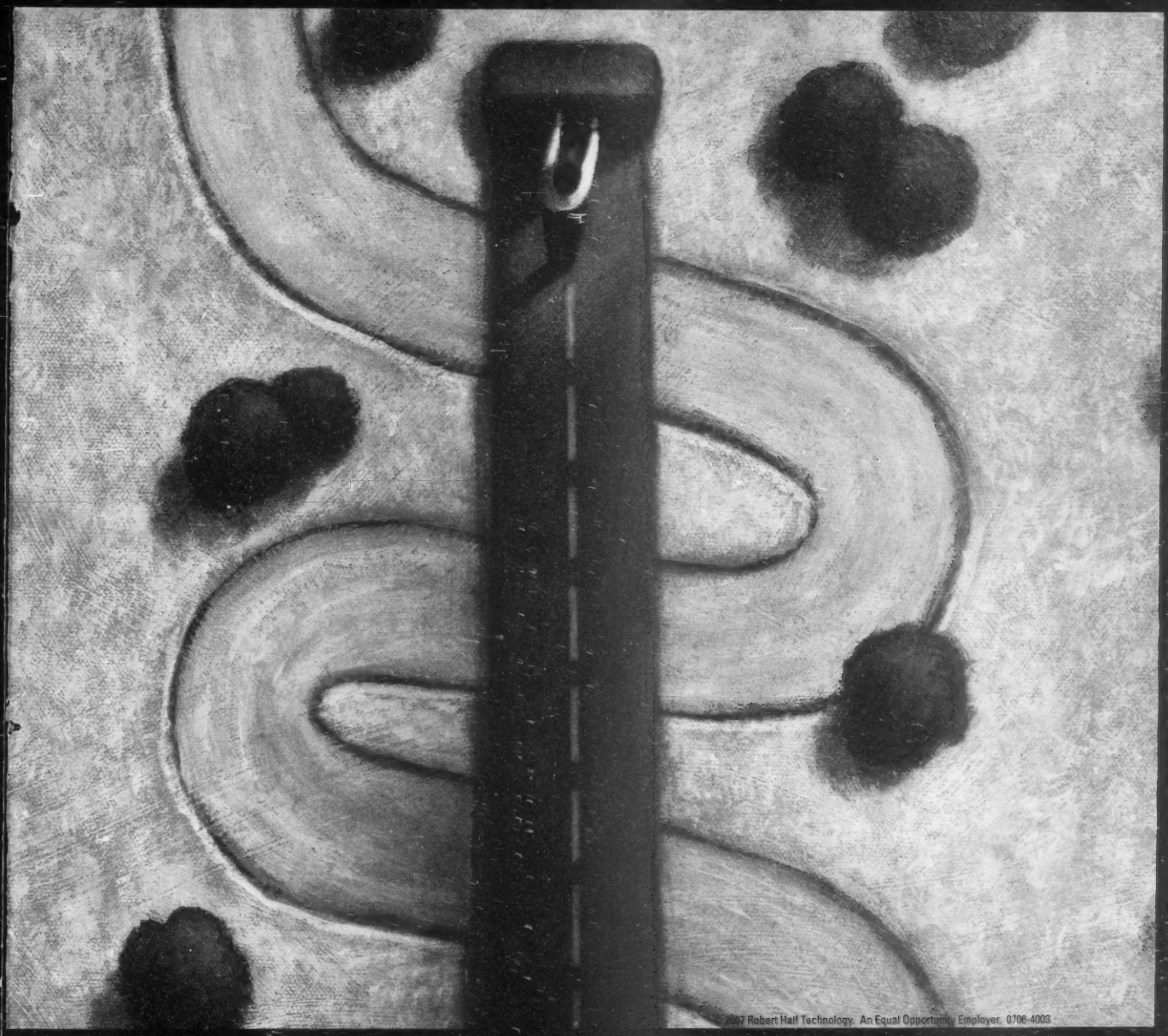
QUESTION?
If you have a question you'd like to pose to one of our Premier 100 IT Leaders, send it to **askaleader@computerworld.com** and watch for this column each month.



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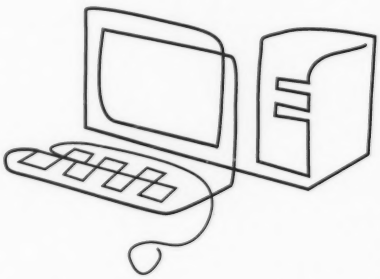

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Shark Tank

TRUE TALES OF IT LIFE AS TOLD TO SHARKY

Unclear on The Concept

State education department launches a "virtual school district" to support home-schooled students. "Obviously, being virtual, it's accessible from anywhere 24/7," says a pilot fish on the inside. But there's still a little, um, confusion. "The first day of school starts, and we start getting phone calls from parents wondering if there will be school today," fish says. "You see, the temperature was reaching 107 in some parts of the state, and certain physical schools were postponing their first days because of the heat. These parents wanted to know if the new online classes were going to be canceled because of the heat as well. Our response was, 'Um, no, ma'am, *your school* is virtual – as long as you're comfortable, we're comfortable.' "

The Easy Part

This public library system offers wireless network access to its patrons, and it's this pilot fish's job to support it. "Today I get a call from a branch library asking a question from a patron," says fish. "The patron can see he's connected on his screen, but another icon tells him a network wire is disconnected." Fish knows that the system works fine with Windows XP but has problems with security certificates on Vista. What operating system is the patron using? fish asks branch manager. Manager, after conferring with patron: "Toshiba." After a little more digging, fish determines that it's running Vista after all. "I tell the manager this is the problem we've been having with wireless and Vista that the staff was told about," fish says. "I then tell her the patron's computer is correct: A network wire is not attached."

Strategic Thinking

Contractor pilot fish interviews at this small company to be . . . well, no one is quite sure what job he's being offered. "Maybe computer operator, maybe e-mail administrator – people can't seem to agree," says fish. But that's the least of the problems. "Nothing, I mean *nothing*, is documented," fish says. "The IT manager only deals with 'strategic issues.' No one knows how the IT systems work. They're using outdated software with a bunch of handcrafted scripts. No one even knows if they have an up-to-date backup, because the scripts that do it all are the baby of the 'brilliant' IT guy who is either on holiday, ill or having personal problems, which is why they need someone to fill his shoes. My big question is, if the IT manager only deals in strategic issues, which part of his strategy involves setting the company up with a single point of failure and then allowing him to go AWOL?"

■ *Sharky's strategy is to get you to send me your true tale of IT life at sharky@computerworld.com. You'll score a strategic Shark shirt if I use it.*

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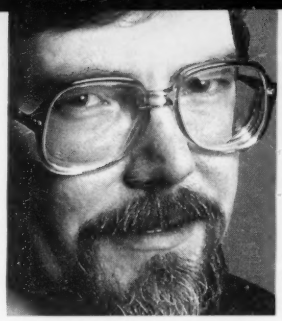
■ FRANKLY SPEAKING

Frank Hayes

Raising the Bar



"ULTIMATELY, IT can be counted on to get the job done. Just budget the money and get out of the way." Who said that recently? Some cheerleading columnist in *Computerworld*? The head of a big IT consulting firm trying to goose business? A self-promoting CIO blowing smoke to stroke his own ego?

None of the above. It was The Conference Board.

Yes, *that* Conference Board. The people who do the Consumer Confidence Index and the leading economic indicators. The business group that your CEO listens to — and may belong to.

Let's give the statement a little context: It comes in a Conference Board report on virtual worlds such as Second Life that was written by telecom guru and former Gartner analyst Edward M. Roche.

Roche thinks corporate executives should take virtual worlds seriously as a strategic opportunity, and he lays out eight questions for execs to consider — questions about entry strategy, corporate purpose, costs, revenue model and who will be in charge.

The final question: Is IT up to the job?

Roche's answer: "The IT function in most companies is one of the most underrated and underappreciated groups. . . . Unfortunately, continual nagging from users and extremely difficult technical challenges tend to make IT resistant to change. Often, a new project is considered little more than another headache. But, ultimately, IT can be counted on to get the job done. Just budget the money and get out of the way."

Those words should thrill you and terrify you.

They should thrill you because they're a spectacular endorsement of corporate IT. In a stroke, Roche gives CEOs a terse, credible explanation for why we can seem hard to deal with and even obstructionist, and then he throws The Conference Board's credibility behind his faith that we can get the job done.

■ The days when any business could afford for IT to be just a high-tech janitorial staff are long gone.

And those words should terrify you because, well, what will you do if your CEO really does budget the money and get out of the way?

If that happens, you'll have no more excuses. You'll have to deliver.

Everything we've been promising for the past decade about listening to users, meeting their needs, putting technology to work for the business — on the day we actually get our chance, that bill comes due.

And remember, this Conference Board vote of confidence isn't for some random IT project. It's for helping our organizations get involved in virtual worlds, one of the most user-intensive, security-intensive, unstructured, unpredictable, outside-IT's-control projects imaginable.

That will require bringing to bear everything we know about training, support, security, user wrangling, political infighting, keyhole peeping and just plain sneakiness. Oh, and there's some technology involved, too.

Can we do it? Can *you* do it?

Yes.

Roche and The Conference Board are right. Every executive team should be able to look at a project, make the business decisions, give IT the budget and know that the job will get done.

By throwing that support behind IT, The Conference Board has raised the bar, and raised the expectation that we can clear it. And that's long overdue. The days when any business could afford for IT to be nothing more than a high-tech janitorial staff — merely keeping the lights on and the data flowing — are long gone.

It's time for every IT shop to step up, to show that IT *can* be counted on to get the job done.

And that's not cheerleading. That's The Conference Board. ■

Frank Hayes *is* Computerworld*'s senior news columnist. Contact him at frank_hayes@computerworld.com.*

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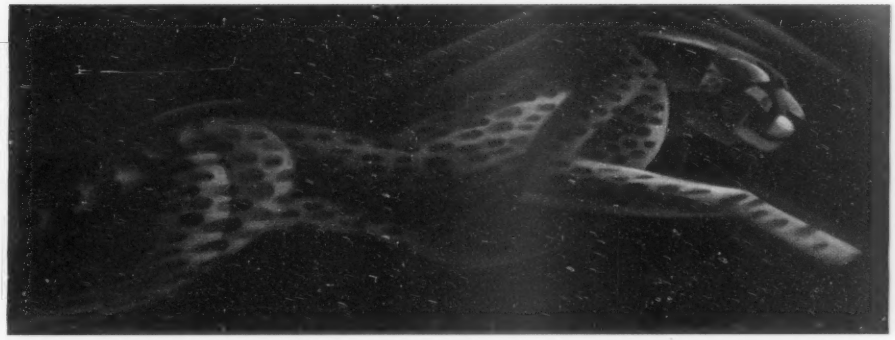

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_INFRASTRUCTURE LOG

_DAY 75: These cables are everywhere!! Connecting underutilized servers to more underutilized servers. Our energy usage is out of control!!

_DAY 77: I found a way out of this mess: the super-efficient IBM BladeCenter.® It helps us manage power and cooling usage with intelligent Cool Blue™ technology. And with its new Quad-core Intel® Xeon® processor, we won't have to sacrifice performance for efficiency. So out with cables, in with blades.

_DAY 79: Gil's stuck under the ball. Tried calling his wife. Turns out the photo of his family came with the frame.

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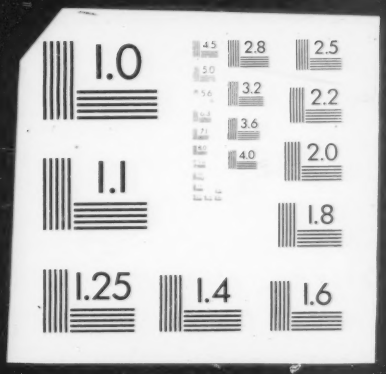
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